

NWO

From: [REDACTED] S NWO
Sent: Sunday, May 22, 2011 3:27 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; [REDACTED] A NWO; [REDACTED] HQ02 [REDACTED]
[REDACTED] NWO; [REDACTED] NWK
Subject: Flood Update #67 (UNCLASSIFIED)
Attachments: NR-RIVERWATCH5-11.No10docx.docx; 24hr Past Precip 5_22_11.jpg; 1dayQPF 5_22_11.gif; 2dayQPF 5_22_11.gif; 3dayQPF 5_22_11.gif; TempOutlook_22May11.xlsx; dailybull 5_22_11.pdf

Classification: UNCLASSIFIED
Caveats: FOUO

****EMERGENCY OPERATIONS****

Information Cutoff: 1400 22 May 2011

1. Situation:

EM has been in contact with the State of MT DES. Currently they have activated their National Guard to assist in evacuations. Currently, most flooding is agricultural, wet basements or roads/highways/interstates. I-90 is still closed. There are currently no requests for USACE as most of their critical infrastructure is dry now. Daily coordination with the State will continue.

Due to the heavy rain in MT, SD, and ND several reservoirs have seen large inflows and elevation changes. Bowman Haley Reservoir has risen two feet in the past two days due to rainfall and is occupying 5% of its flood control pool.

Shadehill, Heart Butte, and Pactola, all Section 7 reservoirs, entered their flood control pools over their weekend due to rainfall and snowmelt runoff. Operations are being coordinated with Reclamation.

Yellowtail Reservoir has risen 3.5 feet in the past 36 hours. Heavy rain has hammered the surrounding area with up to 8 inches falling just downstream of the dam in the past 2 days. Releases were reduced from 8000 cfs to 6000 cfs Saturday morning and further reduced to 3500 cfs Saturday evening to provide flood control on the Bighorn River. The Montana DOT requested the reduction in an effort to save a bridge from washing away and possibly destroying an I-90 bridge. Releases will be held at 3500 cfs for 24-48 hours so the tributaries have an opportunity to recede and then releases will ramp back up to 8000 cfs.

COL Ruch and staff will meet with State EM personnel from both NE and WY on 23 May 2011 including the NE Lieutenant Governor in North Platte, NE and Cheyenne, WY. The team will discuss the current situation and forecast.

2. Weather:

2a. Past Precipitation:

Precipitation fell throughout almost the entire District for the 24 hours ending 7:00 am 22 May. Heaviest amounts were in central Montana where they received between 1.5 and 2.5 inches with some local rain gages reporting as high as 6 inches across the last 3 days. Western South Dakota and north-east Wyoming received between 1.0 and 1.5 inches in the Black Hills. North-east Nebraska also received over 1 inch of rain.

2b. Future Precipitation:

The day 1 QPF (700 hours Sunday to 700 hours Monday) Montana and the Dakotas are forecasted to receive mostly below 0.25 inches of rain/snow depending on the elevation. At the border of

these 3 states they could receive up to about 0.5 inches. The heaviest rain has moved into Minnesota and Wisconsin.

The day 2 QPF (700 hours Monday to 700 hours Tuesday) The western side of the district is forecasted to receive precipitation with near 0.5 inches in Montana, Wyoming, and Colorado. North-east Colorado and western Nebraska are forecasted to receive up to 0.8 inches.

The day 3 QPF (700 hours Tuesday to 700 hours Wednesday) More heavy rain is forecasted across southern Montana, northern Wyoming, western South Dakota, and central Nebraska. Amounts are highest in Nebraska of up to 1.8 inches.

2c. Temperatures:

Attached is a spreadsheet with the high and low temperatures for the next 7 days at Billings, MT; Cody WY; Sheridan WY; Saratoga, WY; and Casper, WY. High temperatures are in the 60s today at these locations then 50s by Tuesday. Lows are in the mid 30s at Saratoga, WY and generally low 40s at the other stations.

3. Hydro Status:

3a. River/Current Stage/Forecast Stage/Date of Peak:

Montana

- Little Bighorn River near Hardin/8.5/9.0/May22 • Bighorn River at Bighorn/8.8/11.9/May 23 • Tongue River at Miles City/12.4/peaked yesterday at 14.1 ft but is rising again • Yellowstone River at Miles City/12.4/16.2/May 24 • Yellowstone River at Glendive/55.1/55.9/May 24 • Yellowstone River near Sidney/17.2/20.7/May 24

North Dakota

- James River at Jamestown/11.1'(1,660 cfs)/steady// • James River at LaMoure/11.4'/steady • Little Missouri River at Medora/15.01/18/May23

South Dakota

- Cheyenne River near Plainview/17.0/17.9/May24 • White River near White River/12.5/12.9/May 22

Nebraska

- North Platte River at North Platte/7.07/7.3/May 24// • North Platte River at State Line/5.8/steady • Missouri River at NE City/21.25/21.5/May22 • Missouri River at Brownville/36.23/37.7/May 23 • Missouri River at Rulo/19.3/21.2/May 23

3.b Reservoirs:

Pipestem Reservoir, ND rose 0.1' yesterday to elevation 1486.68 ft-msl. Yesterday's daily inflows are near 300 cfs and the release was 200 cfs. 70.3% of the flood pool is occupied.

Jamestown Reservoir, ND fell 0.14' yesterday to elevation 1449.25 ft-msl. Yesterday's daily inflows were near 500 cfs. Releases were increased to 1800 cfs in the morning, but were cut back to 1400 cfs in the evening because of heavy rainfall approaching from the south. The storms dissipated as they got to Jamestown and very little rain was received. Releases are being increased back to 1600 cfs this morning. 69.1% of the flood pool is occupied. The combined release from both dams is 1,800 cfs.

Fort Peck Dam, MT

Pool Elevation: 2243.52 ft-msl
24 hr change: 0.50'
Inflow: 78,000 cfs
Release: 19,900 cfs

Garrison Dam, ND

Pool Elevation: 1849.87 ft-msl

24 hr change: 0.28'
Inflow: 96,000 cfs
Release: 54,000 cfs

Oahe Dam, SD
Pool Elevation: 1617.33 ft-msl
24 hr change: 0.19'
Inflow: 81,000 cfs
Release: 51,300 cfs

Big Bend Dam, SD
Pool Elevation: 1420.61 ft-msl
24 hr change: 0.44
Inflow: 55,000 cfs
Release: 45,000 cfs

Fort Randall Dam, SD
Pool Elevation: 1354.79 ft-msl
24 hr change: -0.15'
Inflow: 51,000 cfs
Release: 57,500 cfs

Gavin's Point Dam, SD
Pool Elevation: 1206.16 ft-msl
24 hr change: 0.22
Inflow: 61,000 cfs
Release: 57,700 cfs

4.a Emergency Operations:

4.a.1 Nebraska:

NWO personnel, [REDACTED] (Geotech) and [REDACTED] (Hydro), are in North Platte performing reconnaissance on the critical infrastructure as well as inspecting the local levee. [REDACTED] and [REDACTED] deployed today to determine levee alignments for emergency temporary protective measures. The teams are working with the city to prepare for the large releases from Kinsley Dam and the North Platte River System. Current probably forecasted releases are 5500 cfs. The City is currently at max channel capacity at 4000 cfs. At the 5500 cfs, several areas of critical infrastructure are inundated.

NWO personnel, [REDACTED] (Geotech) and [REDACTED] (Hydro) deployed yesterday to provide assistance in communities upstream of Lewellen, NE, which includes Henry, Morill, Mitchell, Scottsbluff, Terrytown, Gering, Minatare, McGrew, and Lisco. Yesterday, the team visited the Scottsbluff Waste Water treatment facility. Water levels at the west end of the facility are encroaching on the treatment facility levee toe. The treatment facilities effluent pipe is under water and the pump house is inundated with approximately 8" of water. It was determined that the area of concern is on the west end of the facility. The west end contains outbuildings that are located on the low lying area of the facility. Elevation differences will be determined today. Recommendation will be determined after elevations are established. Additionally, elevations were determined for critical infrastructure in Gering and Scottsbluff.

Contact with the Village of Henry was initiated with village representative Mary Agnes Haagensen and a site visit was scheduled for 12 pm in Henry. The village of Henry sits on higher ground, the lowest location still has approximately 5-6' of freeboard. The village sewage lagoon was a concern and after a visual inspection it was determined there is approximately 5-6' of freeboard currently at the lagoons. No actions are recommended.

The mayor of Terrytown was contacted and a meeting was arranged near the downstream lift station. A concern of the NWO team was the pumping operation discharge location. This concern was brought to the attention of the Terrytown representatives. The town representatives immediately addressed our concerns and corrective actions were taken. The town engineer described the history of the levee that protects Terrytown. The levee was built by piling random fill with no compaction efforts recorded. According to the town engineer the Corps helped in 1971 with the alignment of the levee. Integrity of the levee is unknown and further investigations shall be conducted before integrity is relied upon. Water is on the toe of the levee on the east end near the trailer park. Town representatives indicate the ground water in Terrytown is within 6" from the surface. Lift station elevations will be developed today. Recommendations will be determined after elevations are established.

A meeting is arranged for Monday morning at 10 am in Mitchell, NE.

4.a.2 Montana - See above

4.a.3 North Dakota - No Change

4.a.4 South Dakota - No Change

4.a.5 Support to Others

Alabama Tornadoes: [REDACTED] is currently deployed to support the debris SME and [REDACTED]
[REDACTED] is deployed to provide PAO support to MVS

4.b Funding:

- * Total Code 200 Funding received to date for this event: \$1,762,425
- * Total Code 200 Funding revoked to date for this event: \$2,600,000
- * Class 219 - Emergency Operations - Direct Assistance - \$250,000 - WAD and FAD received 3/14/2011
- * Class 219 - Emergency Operations - Direct Assistance - \$3.825M - WAD received 03/15/11. FAD received 03/16/11.
- * Class 219 - Additional Funds Request on 24 March - \$231,425 - WAD and FAD received 03/24/11.
- * Class 219 - Emergency Operations - Direct Assistance - \$2.5M revoked - 4/13/11
- * Class 219 - Emergency Operations - Direct Assistance - \$100k revoked - 4/22/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$56k - MIPR - 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$25k - Request and received for EOC Operations and deployments on 4/30/11

4.c Number of Personnel Supporting EOC Operations: 15

4.d EOC Activation - Level III - Partial Activation(Hours: 0700 to 1700)

ADVANCE MEASURES

1. Situation:

Currently monitoring high snow water equivalents in WY and MT.

2. Advance Measures:

2.a.2 WYOMING - No Change.

2.b Funding:

- * Total Code 500 Funding received to date: \$787,904
- * Class 520 Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/2/11.

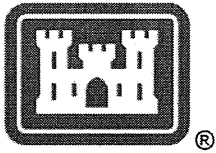
* Class 52A Additional Request for Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/10/11.
* Class 520 Additional Request for Funding - Advance Measures - Technical assistance - \$101,640. WAD and FAD received on 3/24/11.
* Class 519 Funding - Advance Measures - Direct Assistance - \$376,264. WAD and FAD received on 3/28/11.
* Class 520 Funding - Advance Measures - Technical assistance - \$110k - FAD received on 05/12/11.

2.c Number of Personnel Supporting Advance Measures EOC Operations: 10

3.c EOC Activation - Level III - Partial Activation(Hours: 0700 to 1700)

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED
Caveats: FOUO



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NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

For Immediate Release: July 1, 2011

Contact: Kevin R. Quinn 402-995-2419

kevin.r.quinn@usace.army.mil

Jody Farhat 402-996-3840

Riverwatch Daily – Garrison and Oahe Dams

Update #10

OMAHA, Neb. – Due to high runoff from the far-above-normal plains and mountain snowmelt, the U.S. Army Corps of Engineers is evacuating large volumes of water from Garrison Dam in Riverdale, N.D. and Oahe Dam near Pierre, S.D.

In expectation of continued high runoff, the U.S. Army Corps of Engineers will release a daily bulletin detailing releases and levels for both dams. Below are the May 22, 2011 statistics for the two dams:

Daily Information Update

Garrison Dam and Lake Sakakawea:

- Midnight reservoir level – 1849.9 feet mean sea level
- Yesterday's Reservoir Inflow – 96,000 cubic feet per second (cfs)
- Current Reservoir Release – 54,000 cfs
- Annual Flood control and multiple use zone – El. 1,837.5 to 1,850 msl
- Exclusive flood control zone– El. 1,850-1,854 msl
- Top of spillway gates - 1,854 feet msl
- 6 a.m. River Stage at Bismarck-13.6 feet (Flood stage at Bismarck-16.0 feet)
- Planned scheduled releases
 - Sunday, May 22 Hold at 54,000 cfs due to heavy rain in local area.
 - Increases to 60,000 cfs planned over the coming week, but dates are dependent on river and reservoir conditions.

Oahe Dam and Lake:

- Midnight reservoir level – 1617.3 feet msl
- Yesterday's Reservoir Inflow – 81,000 cfs
- Yesterday's Reservoir Release – 51,300 cfs
- 6 am river stage at Pierre 11.3 feet (Flood stage 15.0)
- Annual Flood control and multiple use zone – El. 1607.5 to 1617.0 feet msl
- Exclusive flood control zone – El. 1617.0 to 1620.0 feet msl
- Top of spillway gates: - 1620.0 feet msl
- Planned scheduled releases:
 - Friday, May 20 through Monday, May 23: 57,000 cfs
 - Actual releases may not equal scheduled releases because Oahe is being used to follow power loads.

Garrison Dam is a 210-foot high rolled earth embankment. Discharges are normally passed through five power tunnels having a combined discharge capacity of 41,000 cfs, and three flood tunnels having a combined discharge capacity of 98,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with 28 tainter gates and has a maximum discharge capacity of 660,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will go through the power plant and regulating tunnels.

U.S. Army Corps of Engineers – Omaha District 1616 Capitol Ave., Omaha, Neb. 68102

<http://www.nwo.usace.army.mil/>

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Oahe Dam is a 245-foot high rolled earth embankment. Discharges are normally passed through seven power tunnels having a combined discharge capacity of 56,000 cfs, and six flood tunnels having a combined discharge capacity of 111,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with eight tainter gates and has a maximum discharge capacity of 80,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will be made through the power plant and outlet tunnels.

Daily bulletin updates are available from the Corps' website: <http://www.nwo.usace.army.mil/>

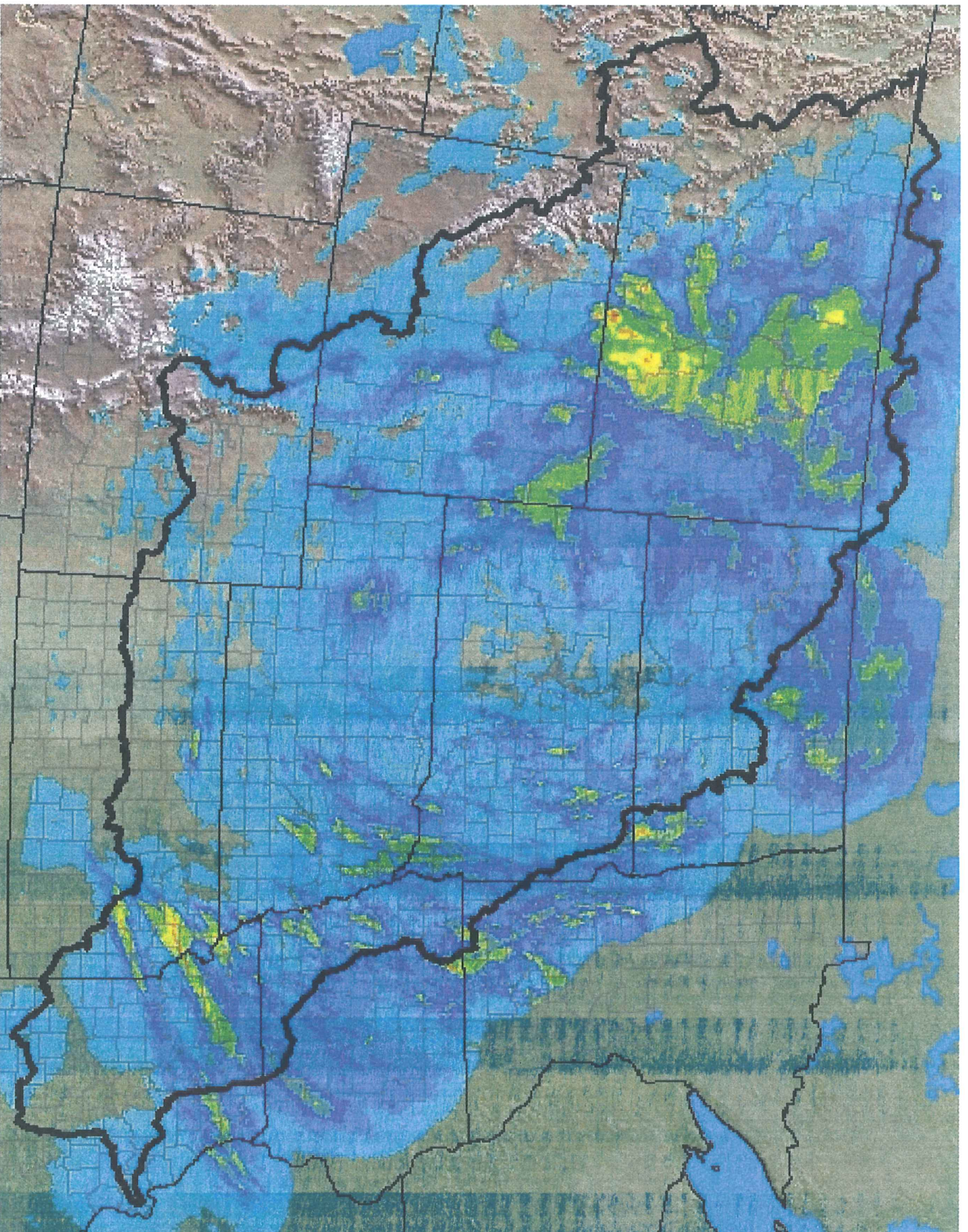
Northwestern Division's water management website for the most up to date information:
<http://www.nwd-mr.usace.army.mil/rcc/index.html>

U.S. Army Corps of Engineers Contact: Jody Farhat, Chief, Missouri River Basin Water Management 402-996-3840

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6 Day Forecast Temperatures (High/Low)

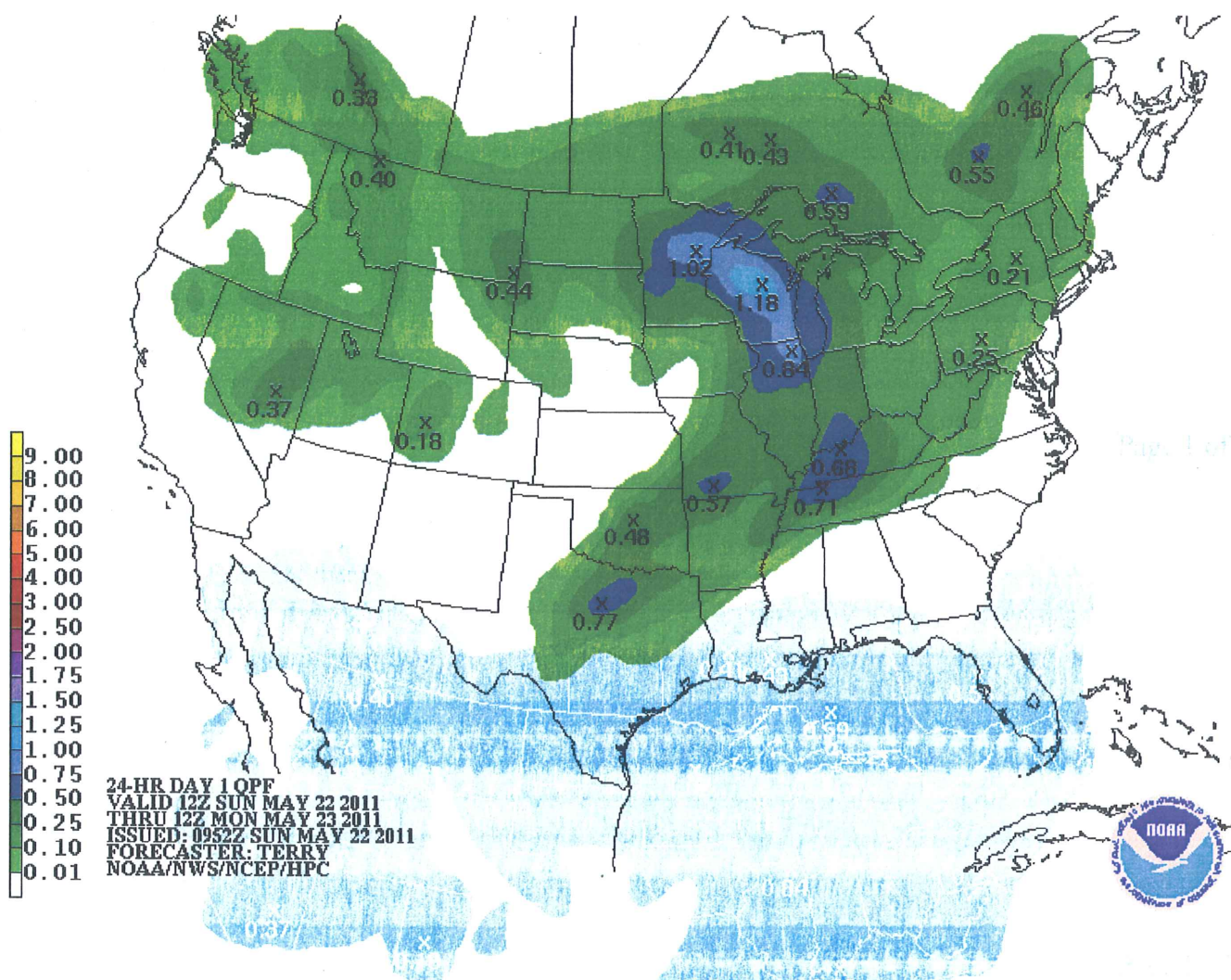
Location	Sun 22-May	Mon 23-May	Tues 24-May	Wed 25-May	Thu 26-May	Fri 27-May	Sat 28-May
Billings, MT	63/46	61/45	58/44	64/45	66/46	66/45	67/NA
Cody, WY	65/43	62/43	57/43	62/43	59/41	61/45	71/NA
Sheridan, WY	61/44	61/44	57/41	61/43	65/45	64/44	65/NA
Saratoga, WY	66/42	63/39	60/39	61/36	66/35	65/38	74/NA
Casper, WY	68/44	67/45	61/42	60/42	63/39	63/43	77/NA

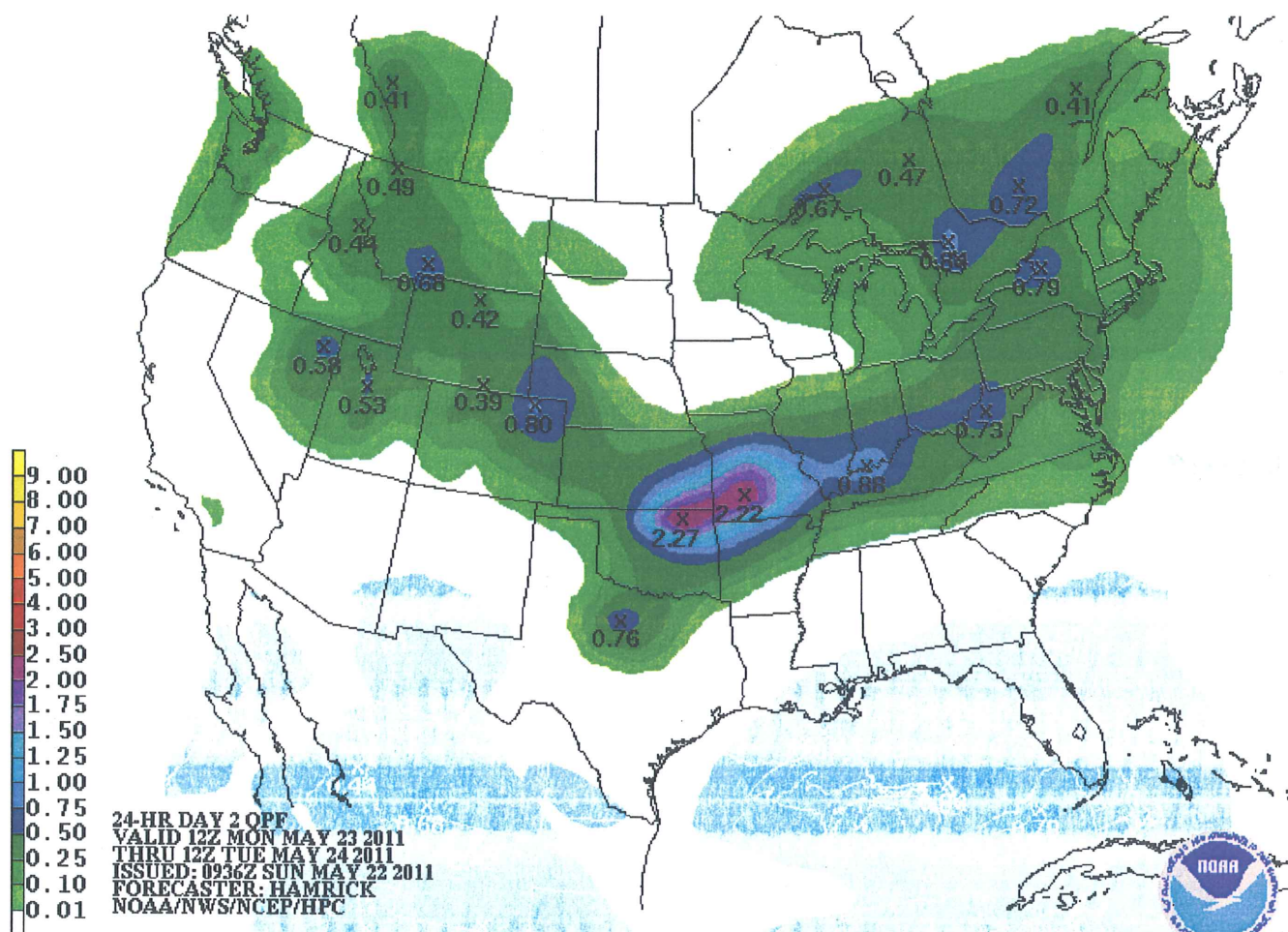


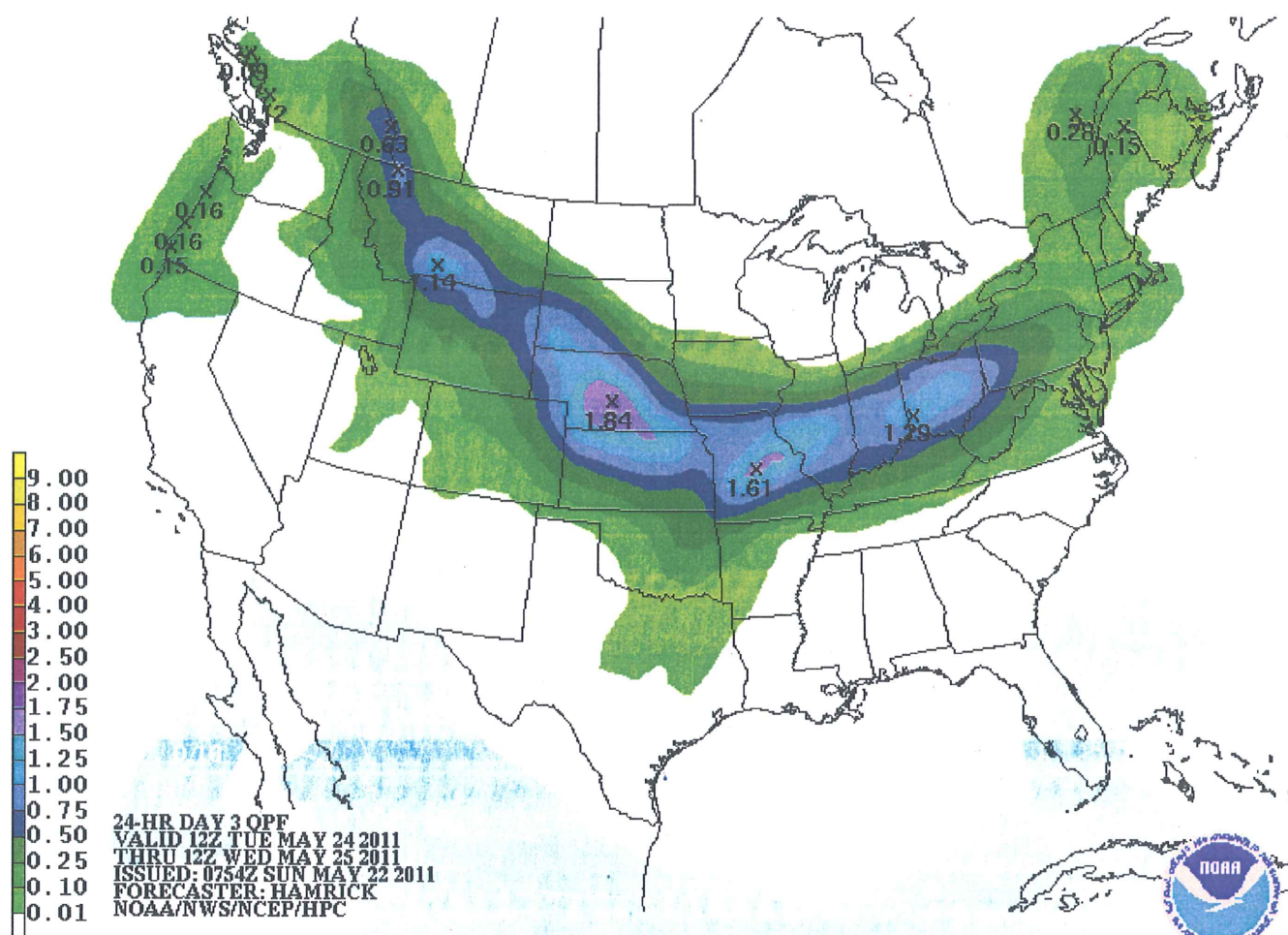
0.01 0.05 0.10 0.25 0.50 0.75 1.00 1.50 2.00 2.50 3.00 4.00 5.00 6.00 8.00 +

MBRFC 24-Hour Gage Biased Estimated Rainfall (inches)

Ending: 5/22/2011 at 7:00AM CDT









US Army Corps
of Engineers
Omaha District

U.S. Army Corps of Engineers, Omaha District

Missouri River Basin

Mainstem and Tributary Reservoir Bulletin

Project Data Date/Time: 05/22/11 12:00 AM

Bulletin Updated: 5/22/11 8:50 AM

Project	Project Information				Current Data					Occupied Storage		
	Elevations (ft msl)		Storage		Elevation (ft msl)	Dly Elev. Change	Storage (ac-ft)	Inflow (dsf)	Release (dsf)	MP (%)	FC (ac-ft)	FC (%)
	MP	FC	MP	FC								
MRR - Missouri River Mainstem Projects												
*Please note Mainstem and USBR data is calculated manually and will populate before 12:00 p.m.												
Fort Peck	2234.0	2250.0	14,995,684	18,687,731	2243.52	0.50	16,904,000	78,000	19,900	100.0	1,908,316	51.7
Garrison	1837.5	1854.0	18,109,625	23,820,730	1849.87	0.28	22,274,000	96,000	54,000	100.0	4,164,375	72.9
Oahe	1607.5	1620.0	18,834,035	23,136,960	1617.33	0.19	22,118,000	81,000	51,300	100.0	3,283,965	76.3
Big Bend	1420.0	1423.0	1,621,484	1,798,614	1420.61	0.44	1,654,000	55,000	45,000	100.0	32,516	18.4
Fort Randall	1350.0	1375.0	3,124,368	5,418,186	1354.79	-0.15	3,513,000	51,000	57,500	100.0	388,632	16.9
Gavins Point	1204.5	1210.0	320,971	469,928	1206.16	0.22	347,000	61,000	57,700	100.0	26,029	17.5
System Totals							66,810,000					
NWO - USBR Section 7 Projects												
Tiber	2993.0	3012.5	925,649	1,328,723	2985.36	0.17	796,908	0	0	86.1	0	0.0
Clark Canyon	5546.1	5560.4	174,367	253,442	5544.89	0.00	168,107	0	0	96.4	0	0.0
Canyon Ferry	3797.0	3800.0	1,891,888	1,992,977	0.00	-3778.24	0	0	0	0.0	0	0.0
Boysen	4725.0	4732.2	741,594	892,226	4709.75	-0.08	489,059	0	0	65.9	0	0.0
Buffalo Bill	5393.5	5393.5	646,565	646,565	0.00	-5347.05	0	0	0	0.0	-	-
Yellowtail	3640.0	3657.0	1,070,000	1,328,000	0.00	-3606.66	0	0	0	0.0	0	0.0
Jamestown	1429.8	1454.0	31,510	221,000	1449.25	-0.14	162,420	0	0	100.0	130,910	69.1
Heart Butte	2064.4	2094.5	67,000	214,000	2064.89	0.65	68,408	0	0	100.0	1,408	1.0
Keyhole	4099.3	4111.5	194,000	334,000	4094.33	0.41	145,971	0	0	75.2	0	0.0
Pactola	4580.2	4621.5	56,000	99,000	4580.66	0.31	56,350	0	0	100.0	350	0.8
Shadehill	2271.9	2302.0	120,000	350,000	2272.20	0.48	121,132	0	0	100.0	1,132	0.5
Glendo	4635.0	4653.0	518,000	790,000	4629.74	0.34	456,130	0	0	88.1	0	0.0
NWO - USACE Tributary Projects												
Bowman-Haley	2754.8	2777.0	18,765	91,482	2756.76	1.5	22,399	854	442	100.0	3,634	5.0
Pipestem	1442.5	1496.3	8,944	142,107	1486.68	0.10	102,584	54,362	205	100.0	93,640	70.3
Chatfield	5432.0	5500.0	27,428	234,207	5431.87	0.06	27,230	61	0	99.3	0	0.0
Cherry Creek	5550.0	5598.0	12,805	133,134	5550.41	-0.07	13,145	134	114	100.0	340	0.3
Bear Creek	5558.0	5635.5	1,882	30,586	5558.43	-0.08	1,927	22	27	100.0	45	0.2
Papio #11	1121.0	1142.0	3,054	16,907	1121.51	0.03	3,254	14	8	100.0	200	1.4
Papio #16	1104.0	1121.0	1,211	4,782	1104.82	-0.09	1,315	8	14	100.0	104	2.9
Papio #18	1110.0	1128.2	2,916	10,512	1092.50	0.00	281	0	0	9.6	0	0.0
Papio #20	1095.8	1113.1	2,536	8,611	1096.40	0.03	2,669	23	10	100.0	133	2.2
Cottonwood	3875.0	3936.0	655	8,385	3856.52	0.00	0	0	0	0.0	0	0.0
Cold Brook	3585.0	3651.4	520	7,200	3582.52	0.04	432	1	0	83.2	0	0.0
Lake Audubon	1847.0	1847.0	323,690	323,690	1846.81	0	INFLOW AND OUTFLOW NOT CALCULATED					
Lake Pocasse	1617.0	1617.0	11,000	11,000	POOL ELEVATION READ MONTHLY BY PROJECT OFFICE							
Salt Creek #02	1335.0	1350.0	1,100	4,957	1333.80	0.25	915	18	0	83.2	0	0.0
Salt Creek #04	1307.4	1322.5	2,531	9,660	1307.07	0.17	2,428	26	0	95.9	0	0.0
Salt Creek #08	1287.8	1302.0	1,780	8,375	1288.30	-1.00	1,916	-117	32	100.0	136	2.1
Salt Creek #09	1271.1	1285.0	1,451	5,864	1271.62	-0.06	1,553	1	7	100.0	102	2.3
Salt Creek #10	1244.9	1262.0	1,629	7,468	1245.85	0.03	1,835	17	14	100.0	206	3.5
Salt Creek #12	1232.9	1252.0	1,808	9,415	1234.34	0.24	2,131	68	39	100.0	323	4.2
Salt Creek #13	1341.0	1355.0	2,161	7,182	1342.46	-0.15	2,521	70	89	100.0	360	7.2
Salt Creek #14	1244.3	1263.5	7,500	27,597	1245.49	-0.02	8,386	82	90	100.0	886	4.4
Salt Creek #17	1242.4	1266.0	783	6,628	1243.12	-0.20	898	-1	13	100.0	115	2.0
Salt Creek #18	1284.0	1311.0	25,088	96,759	1285.51	0.08	27,949	242	164	100.0	2,861	4.0

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 10:00 AM
To: Tipton, Robert A Col NWD
Cc: [REDACTED] McMahon, John R BG NWD; Ruch, Robert J
COL NWO; Hofmann, Anthony J COL NWK
Subject: RE: Exclusive Flood Zones (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir - we are very concerned about conditions from Montana to Missouri. We need to increase releases throughout the system. There will certainly be impacts in the Bismarck and Pierre areas, and between Fort Randall and Gavins Point. There was also heavy rain below the system, so calls are starting to pour in from Missouri including a call from Dan Engemann (Cong Luektemeyer's office) this morning asking what we can do to help out the lower river.

Back in 1997 when we had conditions similar to this, the Omaha District did advanced measures in Pierre. We're working on another updated forecast this morning, but I would imagine something similar will be needed soon; same for Bismarck if there is any public infrastructure in the flood way. We may soon be setting record releases at both projects, but these releases are necessary to avoid spillway flows.

The situation here is critical. We're doing everything we can to move water out of the reservoirs while maintaining good coordination with the state and local agencies and the Districts.

Jody

-----Original Message-----

From: Tipton, Robert A Col NWD
Sent: Monday, May 23, 2011 9:41 AM
To: Farhat, Jody S NWD02
Cc: [REDACTED] McMahon, John R BG NWD; Ruch, Robert J COL NWO;
Hofmann, Anthony J COL NWK
Subject: Exclusive Flood Zones

Jody,

Now that we have officially reached this point with Oahe and Garrison...are there any additional measures we need to take at this point that we did not discuss last week.

RT

Robert A. Tipton, P.E.
COL, EN
Deputy Commander
Northwestern Division
U.S. Army Corps of Engineers

[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

2

[REDACTED] F NWO

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 12:36 PM
To: [REDACTED]
Subject: FW: Missouri River Flow (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] can you respond to this question?

Jody

-----Original Message-----

From: [REDACTED]
Sent: Monday, May 23, 2011 12:21 PM
To: Farhat, Jody S NWD02; [REDACTED]
Subject: FW: Missouri River Flow (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] You can contact this person directly or email answer to me and I will get back to them. Your call. kq

-----Original Message-----

From: Tove & Evan Mandigo [<mailto:mandigo@bis.midco.net>]
Sent: Monday, May 23, 2011 12:18 PM
To: [REDACTED]
Subject: Missouri River Flow

I am a homeowner in the Bismarck area potentially impacted by rising water in our area.

I have a question. How come there is a difference between the advertised discharge rate from Garrison Dam and

the indicated rate at Bismarck when you translate the elevation at the gauge to kcfs ?

For instance, your latest published discharge rate is 56kcfs, yet the river stage of 14.25 translates on your web site to 65.5.

Thanks for your help.

Evan Mandigo

Bismarck ND

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 1:36 PM
To: [REDACTED], Kevin R. [REDACTED]
Subject: Snowpack numbers? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] are we able to look at individual snotel sites and see if the snowpack is going up or down or staying the same? Come see me.

Jody

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 3:41 PM
To: [REDACTED]
Subject: RE: Fort Peck Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks for your understanding [REDACTED]. I know very well this is not the direction you wanted to be going.

Thanks,
Jody

-----Original Message-----

From: [REDACTED]
Sent: Monday, May 23, 2011 3:00 PM
To: Farhat, Jody S NWD02
Cc: M [REDACTED]; Darin J NWD; Dingman, Harold E NWD; Mullins, Harold E NWD; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]
Subject: Fort Peck Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I received your phone message that you may cut our releases because of the high pool at Garrison. We understand and will adjust to whatever you need.

[REDACTED]
U.S. Army Corps of Engineers
Operations Project Manager
Fort Peck Project
Fort Peck, Montana 59223
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

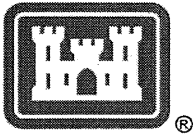
Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

id: s, arbat@usace.army.mil

07-100-400-096-348

Phone: 402-551-6013



NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

For Immediate Release:
May 23, 2011

Lots more water coming down the Missouri River - now!

Omaha, Neb. -- Repeated rounds of heavy rain across Montana and the Dakotas coupled with much above normal mountain snowpack have pushed reservoirs to a level which calls for aggressive water releases from Missouri River mainstem dams, said Jody Farhat, Chief of the Corps' Missouri River Basin Water Management Division in Omaha.

"The upper Missouri River is seeing dramatic increases in flows, particularly after as much as eight inches of rain fell over the weekend in portions of eastern Montana and western North Dakota," Farhat said. "Unusually heavy precipitation, combined with late season heavy snowpack in parts of the Missouri Basin, means we will see near-record runoff in the Missouri basin."

Farhat thinks it is possible that Garrison Dam may be within a foot of the top of its spillway gates by this time next week. "We're beginning to make some major adjustments to water releases, starting with Fort Peck south to Gavins Point Dam and expect to do so for some time since the extended forecast is calling for more of the same."

Garrison Dam releases were increased to 60,000 cubic feet per second (cfs) today and will be stepped up until they reach 75,000 cfs on Wednesday. At the same time, releases from the upstream reservoir Fort Peck will be reduced from the current rate of 20,000 cfs to 10,000 cfs to help stem the rise of Garrison reservoir. Garrison reservoir is expected to reach 1853 feet by this weekend due to the high flow on the Yellowstone and Little Missouri Rivers. Fort Peck reservoir is also climbing rapidly due to weekend's rainfall and low elevation snowmelt. It is expected to rise 2 feet this week, reaching 2246 by the weekend.

Oahe Dam releases will transition from 60,000 cfs today to 70,000 cfs by mid-week. Farhat expects the Oahe reservoir to reach 1618 feet by the weekend and continue to slowly drift upward over the next few weeks, perhaps peaking in mid-June. The record pool at Oahe is 1618.7 feet, set in 1995 and repeated in 1996. The peak pool level in 1997 was 0.1 foot lower at 1618.6.

Fort Randall has some space to store water, but the river reach between there and Gavins Point is already at bankfull. Gavins Point releases were increased to 60,000 cfs this afternoon and will be slowly ramped up over the coming days, possibly reaching 75,000 cfs in June unless conditions improve. This will eventually necessitate a similar magnitude increase in Fort Randall's releases.

U.S. ARMY CORPS OF ENGINEERS – NORTHWESTERN DIVISION

P.O. Box 2870; Portland, OR 97208-2870

Web site: www.nwd.usace.army.mil

Travel time for water released from Garrison Dam to reach the Bismarck area is about 36 hours. River managers are expecting stages of approximately 16.5 to 17 feet in the Bismarck area when the river stabilizes. The Corps' Omaha District office has deployed technical teams to help prepare for flood fighting around Bismarck and to assess the flood potential in the Pierre area.

"As already seen in other parts of the nation, high water years always bring pain and suffering with them," said Farhat. "We are doing everything we can to protect people and their property and reduce the extent and impact of flood stages along the Missouri. The situation in the Missouri River basin is changing rapidly and planned releases are subject to change with little notice." Residents who live and work in flood-prone areas should remain vigilant and be prepared to follow recommendations from their local emergency management offices.

For more information, visit the *Spring 2011 Flood Response* site at www.nwo.usace.army.mil.

U.S. ARMY CORPS OF ENGINEERS – NORTHWESTERN DIVISION

P.O. Box 2870; Portland, OR 97208-2870

Phone: (503) 808-3733

Web site: www.nwd.usace.army.mil

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 9:34 PM
To: 'atetlak@mail.kfyrtv.com'; [REDACTED]
Subject: Re: Garrison Dam Releases

Amanda - as we agreed, I will give you a call around 4 pm Tuesday. If there are any changes to the schedule, I'll drop you a line.

Jody

From: Amanda Tetlak <atetlak@mail.kfyrtv.com>
To: [REDACTED], Farhat, Jody S NWD02
Sent: Mon May 23 18:02:12 2011
Subject: Garrison Dam Releases

Hello there! We just got the news that the Corps will be increasing releases from the garrison dam to 75,000 cfs. In preparation for a story I am working on tomorrow, I am wondering if I can get an interview with someone (even if it's over the phone) regarding this decision. A lot of residents in Bismarck are confused as to why this is happening now, rather than slowly earlier in the spring. I work from 2-11pm, so I'm wondering if we can do the interview tomorrow (Tuesday) afternoon. I will have my phone on me before I come in to work, so feel free to call me on my cell. I just just wanted to get the ball rolling this evening.
701-516-0336

Thanks in advance,

Amanda Tetlak
Political Reporter/Anchor
KFYR-TV
200 N. 4th St.
P.O. Box 1738
Bismarck, ND 58502
701-255-8128 (O)
701-516-0336 (C)
www.kfyrtv.com

NWO

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 10:25 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; [REDACTED] NWO; [REDACTED] HQ02; [REDACTED], [REDACTED] NWK
Subject: Flood Update #68 (UNCLASSIFIED)
Attachments: 24hrPrecip23May2011.jpg; dailybull 5.23.11.pdf; Day1QPF23May11.gif; Day2QPF23May11.gif; Day3QPF23May11.gif; TempOutlook_23May11.xlsx; Ruch COE - Crow Tribe - 052311.pdf; NR-RIVERWATCH5-11.No11docx.docx

Classification: UNCLASSIFIED

Caveats: FOUO

****EMERGENCY OPERATIONS****

Information Cutoff: 1700 23 May 2011

1. Situation:

Due to the heavy rain in MT, SD, and ND several reservoirs have seen large inflows and elevation changes. Both Garrison and Oahe Dams entered their respective exclusive flood control pools on 22 May 2011. The Missouri River Basin Water Management Division notified the District that the need for record high releases at Garrison and Oahe. A team is deploying to Bismarck to provide technical assistance on sandbag levee construction and other flood fight methods. A second team is deploying to Pierre, SD to determine if temporary protective measures will be necessary for the increased flows. Both teams will be on-site on Tuesday AM.

COL Ruch will have a conference call with Governor Dugaard(SD) tomorrow to discuss record Missouri River releases.

Currently, inflows into Garrison Dam are 180,000 cfs with 60,000 cfs outflows. Releases are schedule to be increased to 65k cfs in the morning and then again to 70k cfs in the afternoon. A release of 75k cfs is targeted for Wednesday, 25 May. Water levels could be up to the top of the spillway gates by next week.

Currently, inflows into Oahe are above 84,000 cfs with 60,000 cfs outflows. Releases are schedule to be increased to 65k cfs in the morning and then again to 70k cfs on Wednesday, 25 May. Big Bend releases are being increased to minimize the backwater effect onto Pierre, SD. This will help the community of Pierre with the higher releases from Oahe. Record pool levels are expected by the 2nd week of June.

State of Montana requested and received 75k sandbags for the Crow Tribe and Bighorn County.

Fort Belknap Indian Community(MT) requested and received 10k sandbags

COL Ruch and staff met with State EM personnel from both NE and WY on 23 May 2011. The meeting with the State of NE included the Lt. Governor, State EM, State Department of Natural Resources, NWS, FEMA, Central Power District, County EM's, and local officials. The meeting discussed the most probably releases out of the North Platte River System as well as measures needed downstream. The meeting with the State of WY included the Director of Homeland Security and staff. The meeting outlined the release plan along with discussion on the initial assessments, technical assistance, and direct assistance requests. New forecast numbers will be released by the end of the week.

2. Weather:

2a. Past Precipitation:

Most of Montana received from 0.25" to 0.75" of rainfall for the 24-hour period ending at 7:00 am CDT on 23 May 2011. The NWS indicated 2.0-2.5" of rain fell between Livingston and Billings. The western one third of South Dakota received similar amounts of precipitation with the Black Hills and Belle Fourche areas receiving up to 0.75". The eastern portion of South Dakota also received up to 0.50". Most of Wyoming within the Omaha District received generally under 0.25" of rain.

2b. Future Precipitation:

The day 1 QPF (700 hours Monday to 700 hours Tuesday) Up to 0.60" of rain in the Nebraska panhandle, 0.50" in southeastern South Dakota, eastern and northwestern Wyoming, and northeastern Colorado. Precipitation over most of Montana with up to 0.50" in the higher elevations.

The day 2 QPF (700 hours Tuesday to 700 hours Wednesday) 1.25" to more than 2.0" over most of Nebraska. Generally 1.00" to 1.25" over western Iowa and a band of 1.00" to 1.25" over north central Wyoming and upper elevations in Montana.

The day 3 QPF (from 700 hours Wednesday to 700 hours Thursday) A band of 0.50" to 0.75" of precipitation from south central Nebraska through Omaha with most of the remainder of the state forecast to receive 0.25" to 0.50". Up to 0.50" across northern Colorado and southern Wyoming. Generally under 0.50" through central Montana.

2c. Temperatures:

3. Hydro Status:

3a. River/Flood Stage/Current Stage/Forecast Stage/Date of Peak:

Montana

- * Little Bighorn River near Hardin/8.0/11.85/crested 12.32 May 23
- * Tongue River at Miles City/11.0/10.85/crested May 21 at 14.1
- * Yellowstone River at Miles City/13.0/14.26/15.3 May 23
- * Yellowstone River at Glendive/53.5/56.37/crest 56.4 May 23
- * Yellowstone River near Sidney /19.0/20.02/20.09 May 24

North Dakota

- * James River at Jamestown/12.0/11.6(1,820 cfs)/steady
- * James River at LaMoure/14.0/11.4'/slow decline
- * Little Missouri River at Medora/15.0/17.38/19.0 May 24

South Dakota

- * Cheyenne River near Plainview/16.0/17.17 near crest
- * White River near White River/14.0/8.8/crested 12.3 May 21-22

Nebraska

- * North Platte River at North Platte/6.0/7.14/7.2 crest and steady
- * North Platte River at State Line/5.5/5.8/steady
- * Missouri River at NE City/18.0/21.08/crest 21.2 May 23
- * Missouri River at Brownville/33.0/36.58/crest 36.9 May 23
- * Missouri River at Rulo/17.0/19.72/20.0 crest May 23

3.b Reservoirs:

Pipestem Reservoir (ND) rose 0.1' Sunday to elevation 1486.78 ft msl. Yesterday's daily inflows were 332 cfs

Reservoirs:

Jamestown Reservoir (ND) fell 0.07' yesterday to elevation 1449.18 ft msl. Yesterday's daily inflows were 1,113 cfs. Sunday's releases averaged 1,520 cfs, but were increased back to

1,600 Sunday morning for a combined release of 1,800 cfs. 68.7% of the flood pool is occupied.

Bowman Haley (ND) rose 1.4 ft to elevation 2758.14 ft msl with inflows of 2,380 cfs and releases of 1,000 cfs. 8.9% of the flood control pool is occupied.

Heart Butte (ND) has 4.4% of its flood control pool occupied, Pactola is 2.0%, and Shadehill is 2.6%.

Yellowtail (MT/WY) rose 4.2 ft yesterday to elevation 3613.38 ft msl with inflows of 15,900 cfs and a 3,300 cfs release. 73.3% of its multipurpose pool is occupied.

Fort Peck Dam (MT)

Pool Elevation: 2244.1 ft-msl
24 hr change: 0.6'
Inflow: 90,000 cfs
Release: 19,900 cfs

Garrison Dam (ND)

Pool Elevation: 1850.1 ft-msl
24 hr change: 0.3'
Inflow: 103,000 cfs
Release: 54,700 cfs

Oahe Dam (SD)

Pool Elevation: 1617.4 ft-msl
24 hr change: 0.1'
Inflow: 84,000 cfs
Release: 56,200 cfs

Big Bend Dam (SD)

Pool Elevation: 1420.7 ft-msl
24 hr change: 0.1
Inflow: 61,000 cfs
Release: 52,500 cfs

Fort Randall Dam (SD)

Pool Elevation: 1355.1 ft-msl
24 hr change: 0.3'
Inflow: 72,000 cfs
Release: 58,200 cfs

Gavin's Point Dam (NE-SD)

Pool Elevation: 1206.5 ft-msl
24 hr change: .3
Inflow: 61,000 cfs
Release: 57,700 cfs

Note: Garrison and Oahe have entered their Exclusive Flood Control Pools and Fort Peck is only 1.9 ft below the base of Exclusive.

4.a Emergency Operations:

4.a.1 Nebraska:

NWO personnel, [REDACTED] are in North Platte performing reconnaissance on the critical infrastructure as well as inspecting the local levee. The team is determining levee alignments for potential emergency temporary protective

measures. The teams are working with the city to prepare for the large releases from Kinsley Dam and the North Platte River System. Current probable forecasted releases are 5500 cfs. Probable releases are going up, we will have new probable forecasts by the end of the week.

NWO personnel, [REDACTED] and [REDACTED] are deployed providing assistance in communities upstream of Lewellen, NE, which includes Henry, Morrill, Mitchell, Scottsbluff, Terrytown, Gering, Minatare, McGrew, and Lisco. The team is working to complete all community contacts and reports. No additional assistance is being requested at this time. The team has collected all important elevation data and compiled a list of critical infrastructure. In cooperation with the communities, the situation will continuously be monitored and USACE will respond to additional requests if the situation warrants.

4.a.2 Montana - See above

4.a.3 North Dakota - Working consequences of high releases from Garrison Dam in the Bismarck and Mandan areas. Technical team will be on the ground in the morning.

4.a.4 South Dakota - Working consequences of high releases from Oahe Dam in the Pierre area. Technical team will be on the ground in the morning.

4.a.5 Support to Others

Alabama Tornadoes: [REDACTED] is currently deployed as the Debris SME to St. Louis. [REDACTED] has returned to the District Office after providing PAO support to MVS

4.b Funding:

- * Total Code 200 Funding received to date for this event: \$1,762,425
- * Total Code 200 Funding revoked to date for this event: \$2,600,000
- * Class 219 - Emergency Operations - Direct Assistance - \$250,000 - WAD and FAD received 3/14/2011
- * Class 219 - Emergency Operations - Direct Assistance - \$3.825M - WAD received 03/15/11. FAD received 03/16/11.
- * Class 219 - Additional Funds Request on 24 March - \$231,425 - WAD and FAD received 03/24/11.
- * Class 219 - Emergency Operations - Direct Assistance - \$2.5M revoked - 4/13/11
- * Class 219 - Emergency Operations - Direct Assistance - \$100k revoked - 4/22/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$56k - MIPR - 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$25k - Request and received for EOC Operations and deployments on 4/30/11

4.c Number of Personnel Supporting EOC Operations: 30

4.d EOC Activation - Level III - Partial Activation(Hours: 0700 to 1700)

****ADVANCE MEASURES****

1. Situation:

Currently monitoring high mountain snow water equivalents in WY and MT.

2. Advance Measures:

2.a.2 WYOMING - Awaiting NWD Decision on Elk Mountain, WY PIR.

2.b Funding:

- * Total Code 500 Funding received to date: \$787,904
- * Class 520 Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/2/11.

* Class 52A Additional Request for Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/10/11.
* Class 520 Additional Request for Funding - Advance Measures - Technical assistance - \$101,640. WAD and FAD received on 3/24/11.
* Class 519 Funding - Advance Measures - Direct Assistance - \$376,264. WAD and FAD received on 3/28/11.
* Class 520 Funding - Advance Measures - Technical assistance - \$110k - FAD received on 05/12/11.

2.c Number of Personnel Supporting Advance Measures EOC Operations: 10

3.c EOC Activation - Level III - Partial Activation(Hours: 0700 to 1700)

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102

[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

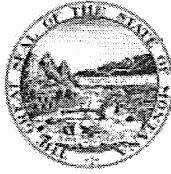
Classification: UNCLASSIFIED
Caveats: FOUO

7 Day Temperature Forecasts (Low/High)

Location	Mon 23-May	Tues 24-May	Wed 25-May	Thu 26-May	Fri 27-May	Sat 28-May	Sun 29-May
Helena, MT	48/63	48/54	44/67	47/63	42/63	42/62	40/61
Livingston, MT	49/64	46/56	43/63	44/63	40/62	38/62	37/60
Billings, MT	50/63	50/55	46/61	48/69	44/63	44/68	44/66
West Yellowstone, MT	32/56	39/50	36/58	35/53	30/55	33/54	30/56
Yellowstone Park, WY	34/50	34/42	33/51	33/49	27/51	30/50	27/51
Cody, WY	45/58	44/56	43/58	46/64	42/59	42/63	39/63
Sheridan, WY	41/64	49/58	47/59	43/78	44/58	41/67	43/67
Casper, WY	38/63	44/62	41/57	42/72	39/63	38/71	40/70
Laramie, WY	36/61	37/57	36/51	35/68	34/60	37/68	36/64

OFFICE OF THE GOVERNOR
STATE OF MONTANA

BRIAN SCHWEITZER
GOVERNOR



JOHN BOHLINGER
LT. GOVERNOR

May 23, 2011

Colonel Robert J. Ruch
District Commander
USACE, Omaha District
1616 Capitol Avenue
Omaha, Nebraska 68102

Dear Colonel Ruch:

The State of Montana is requesting assistance from the Omaha District of the U.S. Army Corps of Engineers (USACE) under the Emergency Operations Program of Public Law 84-99. Specifically, I am requesting advanced measures and direct assistance to provide temporary protective measures for The Crow Tribe and Bighorn County. This assistance is needed for the protection of life and public infrastructure.

The State of Montana has been currently committed within the state: The State has been monitoring the conditions and providing emergency assistance to local Towns, Cities, Counties and Tribes throughout Montana. Jurisdictions have received record amounts of rain. With record rain and snowpack that has just now started to melt we have rivers and small streams flowing extremely high. The State has done an Emergency Declaration due to the record rains and flooding. The State SECC is activated to a level 3. The State, FEMA and the NWS are monitoring the flooding.

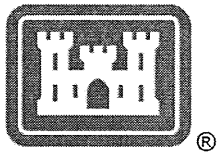
Any assistance the USACE could provide to Montana and the Big Horn County and The Crow Tribe is greatly appreciated. The Crow Tribe and Big Horn County have exhausted their supply of sandbags and are requesting 75,000 additional sandbags for use in the flooded areas. We understand that sand bag resources are located at Fort Peck and would like to utilize those resources for this purpose.

Montana Disaster and Emergency Services Division will monitor and coordinate any requests. The Point of Contact for this flooding event is Steve Knecht at 406-324-4787 or cell # is 406-431-5438. An alternate POC is Tim Thennis at 406-324-4783 or cell# 431-4323. The 24/7 Duty Officer number is 406-324-4777.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Schweitzer", with a stylized flourish at the end.

BRIAN SCHWEITZER
Governor



U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: July 1, 2011

Contact: Kevin R. Quinn 402-995-2419

kevin.r.quinn@usace.army.mil

Jody Farhat 402-996-3840

Riverwatch Daily – Garrison and Oahe Dams

Update #11

OMAHA, Neb. – A more comprehensive news release will be forthcoming from this office this evening.

The situation in the Missouri River basin deteriorated over the weekend due to heavy rain in eastern Montana and western North Dakota, necessitating higher releases from Garrison Dam in Riverdale, N.D. and Oahe Dam near Pierre, S.D. to evacuate stored flood waters.

In expectation of continued high runoff, the U.S. Army Corps of Engineers will release a daily bulletin detailing releases and levels for both dams. Below are the May 23, 2011 statistics for the two dams.

In expectation of continued high runoff, the U.S. Army Corps of Engineers will release a daily bulletin detailing releases and levels for both dams. Below are the May 23, 2011 statistics for the two dams:

Daily Information Update

Garrison Dam and Lake Sakakawea:

- Midnight reservoir level – 1850.1 feet mean sea level
- Yesterday's Reservoir Inflow – 103,000 cubic feet per second (cfs)
- Current Reservoir Release – 54,000 cfs, increasing to 60,000 cfs Monday afternoon.
- Annual Flood control and multiple use zone – El. 1,837.5 to 1,850 msl
- Exclusive flood control zone- El. 1,850-1,854 msl
- Top of spillway gates - 1,854 feet msl
- 6 a.m. River Stage at Bismarck-14.2 feet (Flood stage at Bismarck-16.0 feet)
- Planned scheduled releases, subject to change based on changing reservoir and river conditions:
 - Tuesday, May 24 Increase to 65,000 cfs at 8 a.m. and then to 70,000 cfs at 4 p.m.
 - Wednesday May 25: Increase to 75,000 cfs at 8 a.m.

Oahe Dam and Lake:

- Midnight reservoir level – 1617.4 feet msl
- Yesterday's Reservoir Inflow – 84,000 cfs
- Current Reservoir Release – 60,000 cfs
- 6 am river stage at Pierre 11.4 feet (Flood stage 15.0)
- Annual Flood control and multiple use zone – El. 1607.5 to 1617.0 feet msl
- Exclusive flood control zone – El. 1617.0 to 1620.0 feet msl
- Top of spillway gates: - 1620.0 feet msl
- Planned scheduled releases, subject to change based on changing reservoir and river conditions:
 - Tuesday, May 24: Increase to 65,000 cfs
 - Wednesday, May 25: Increase to 70,000 cfs
 - The issue with actual releases not equaling scheduled releases has been resolved.

Garrison Dam is a 210-foot high rolled earth embankment. Discharges are normally passed through five power tunnels having a combined discharge capacity of 41,000 cfs, and three flood tunnels having a combined discharge capacity of

[Type text]

98,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with 28 tainter gates and has a maximum discharge capacity of 660,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will go through the power plant and regulating tunnels.

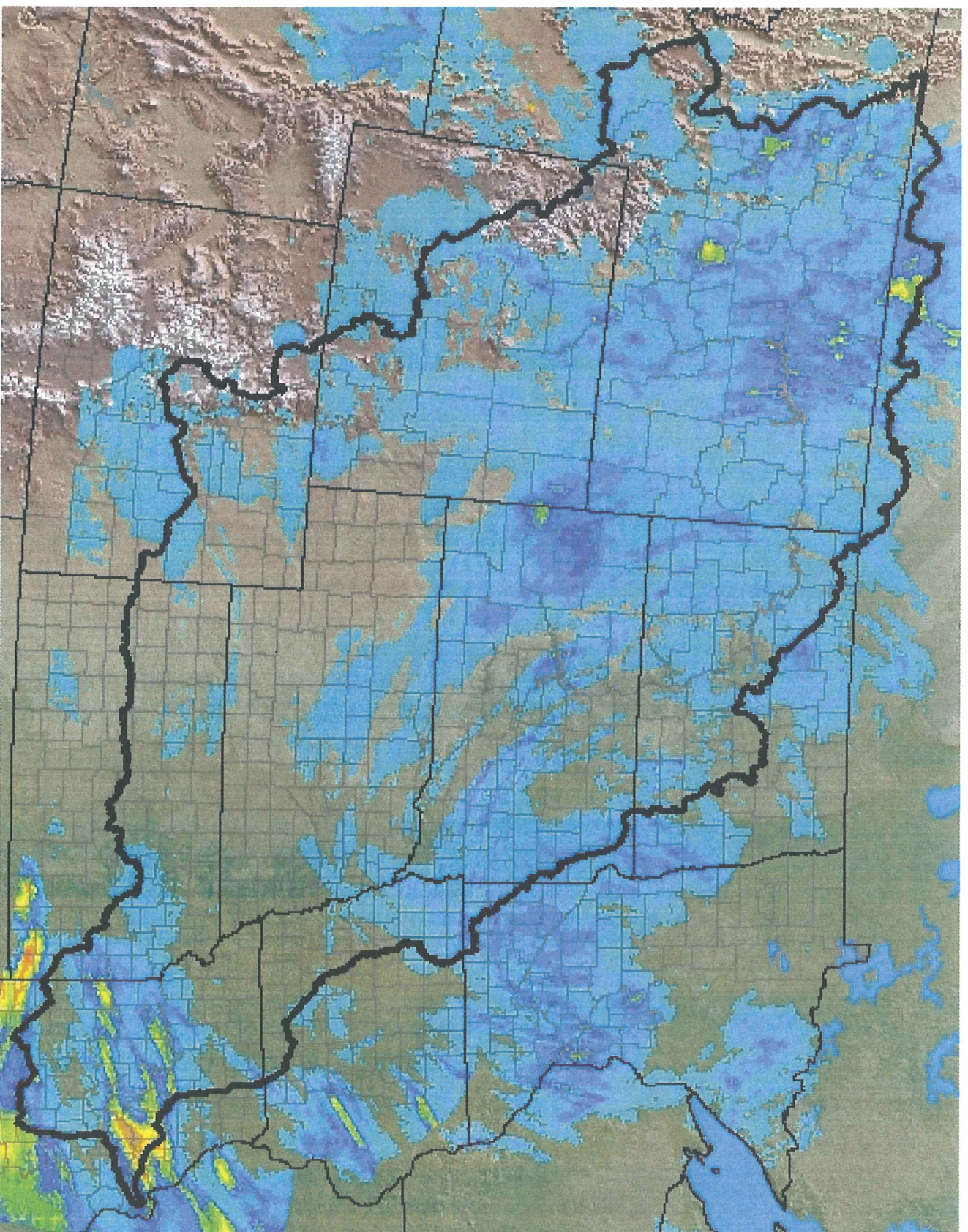
Oahe Dam is a 245-foot high rolled earth embankment. Discharges are normally passed through seven power tunnels having a combined discharge capacity of 56,000 cfs, and six flood tunnels having a combined discharge capacity of 111,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with eight tainter gates and has a maximum discharge capacity of 80,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will be made through the power plant and outlet tunnels.

Daily bulletin updates are available from the Corps' website: <http://www.nwo.usace.army.mil/>

Northwestern Division's water management website for the most up to date information:
<http://www.nwd-mr.usace.army.mil/rcc/index.html>

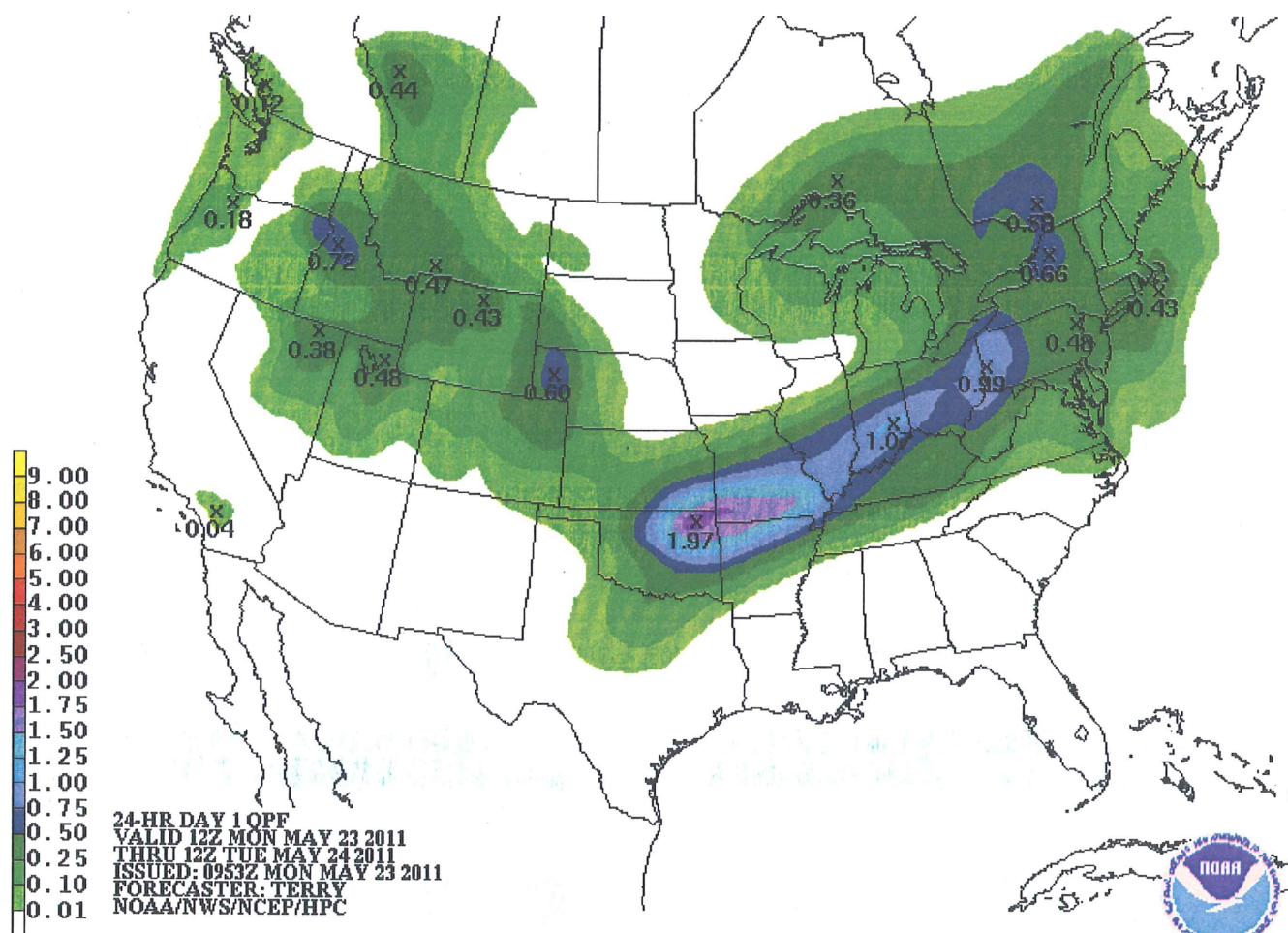
U.S. Army Corps of Engineers Contact: Jody Farhat, Chief, Missouri River Basin Water Management 402-996-3840

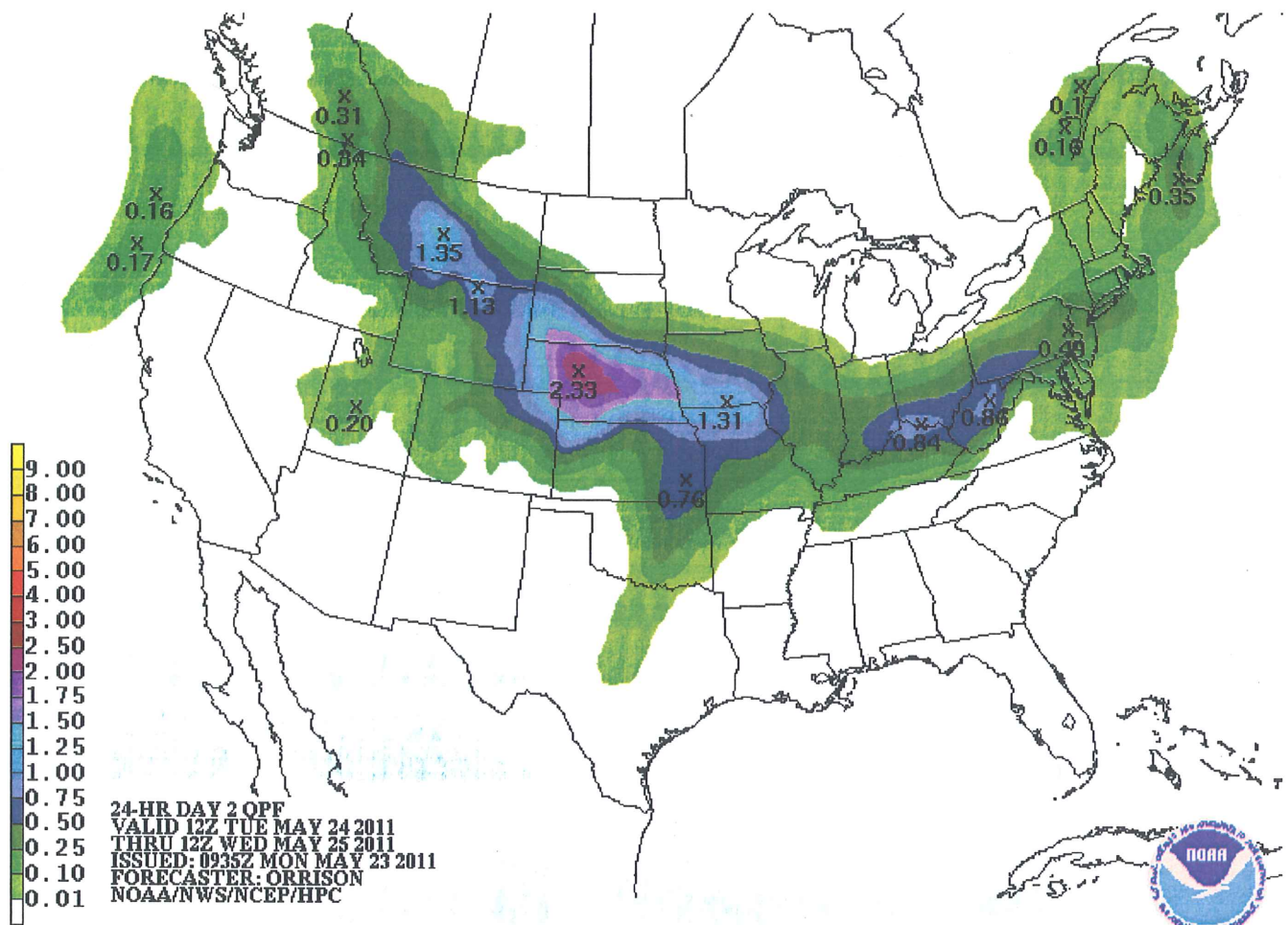
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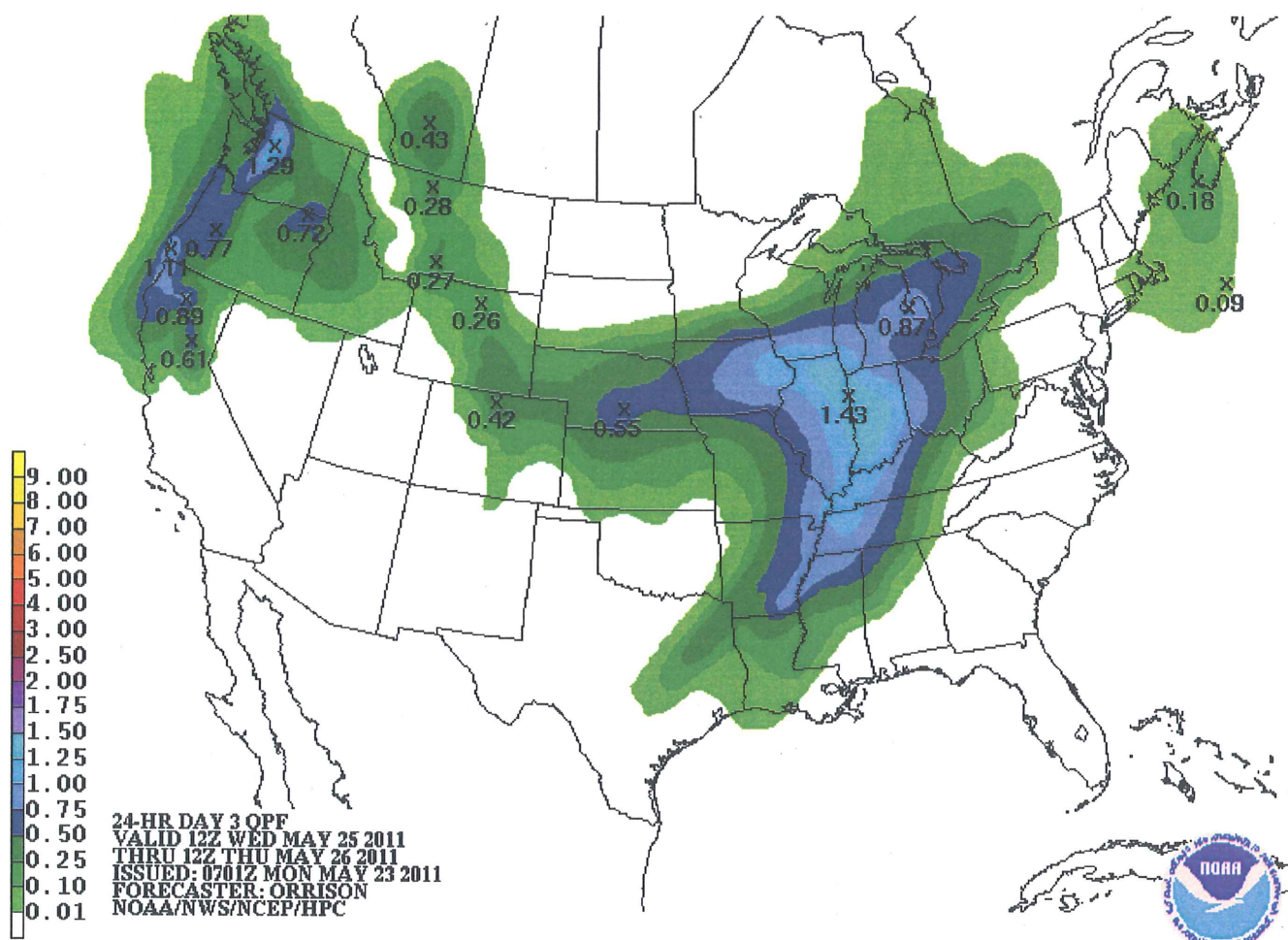


MBRFC 24-Hour Gage Biased Estimated Rainfall (inches)

Ending: 5/23/2011 at 7:00AM CDT









US Army Corps
of Engineers
Omaha District

U.S. Army Corps of Engineers, Omaha District

Missouri River Basin

Mainstem and Tributary Reservoir Bulletin

Project Data Date/Time: 05/23/11 12:00 AM

Bulletin Updated: 5/23/11 11:50 AM

Project	Project Information				Current Data					Occupied Storage		
	Elevations (ft msl)		Storage		Elevation (ft msl)	Dly Elev. Change	Storage (ac-ft)	Inflow (dsf)	Release (dsf)	MP (%)	FC (ac-ft)	FC (%)
	MP	FC	MP	FC								
MRR - Missouri River Mainstem Projects												
*Please note Mainstem and USBR data is calculated manually and will populate before 12:00 p.m.												
Fort Peck	2234.0	2250.0	14,995,684	18,687,731	2244.11	0.59	17,042,000	90,000	19,900	100.0	2,046,316	55.4
Garrison	1837.5	1854.0	18,109,625	23,820,730	1850.13	0.26	22,369,000	103,000	54,700	100.0	4,259,375	74.6
Oahe	1607.5	1620.0	18,834,035	23,136,960	1617.42	0.09	22,172,000	84,000	56,200	100.0	3,337,965	77.6
Big Bend	1420.0	1423.0	1,621,484	1,798,614	1420.68	0.07	1,671,000	61,000	52,500	100.0	49,516	28.0
Fort Randall	1350.0	1375.0	3,124,368	5,418,186	1355.12	0.33	3,540,000	72,000	58,200	100.0	415,632	18.1
Gavins Point	1204.5	1210.0	320,971	469,928	1206.47	0.31	354,000	61,000	57,700	100.0	33,029	22.2
System Totals							67,148,000					
NWO - USBR Section 7 Projects												
Tiber	2993.0	3012.5	925,649	1,328,723	2985.64	0.28	801,155	3,129	990	86.6	0	0.0
Clark Canyon	5546.1	5560.4	174,367	253,442	5544.85	-0.04	167,904	358	435	96.3	0	0.0
Canyon Ferry	3797.0	3800.0	1,891,888	1,992,977	3778.24	0.04	1,309,629	14,730	14,172	69.2	0	0.0
Boysen	4725.0	4732.2	741,594	892,226	4709.63	-0.12	487,414	2,252	3,013	65.7	0	0.0
Buffalo Bill	5393.5	5393.5	646,565	646,565	5346.35	-0.29	315,923	2,548	3,390	48.9	-	-
Yellowtail	3640.0	3657.0	1,070,000	1,328,000	3613.38	4.2	784,306	15,871	3,304	73.3	0	0.0
Jamestown	1429.8	1454.0	31,510	221,000	1449.18	-0.07	161,615	1,113	1,520	100.0	130,105	68.7
Heart Butte	2064.4	2094.5	67,000	214,000	2066.40	1.5	73,536	3,481	895	100.0	6,536	4.4
Keyhole	4099.3	4111.5	194,000	334,000	4095.14	0.81	152,353	3,219	0	78.5	0	0.0
Pactola	4580.2	4621.5	56,000	99,000	4581.24	0.58	56,853	407	154	100.0	853	2.0
Shadehill	2271.9	2302.0	120,000	350,000	2273.15	0.95	125,998	3,257	803	100.0	5,998	2.6
Glendo	4635.0	4653.0	518,000	790,000	4630.00	0.26	458,969	7,158	5,649	88.6	0	0.0
NWO - USACE Tributary Projects												
Bowman-Haley	2754.8	2777.0	18,765	91,482	2758.14	1.4	25,236	2,380	1,002	100.0	6,471	8.9
Pipestem	1442.5	1496.3	8,944	142,107	1486.78	0.10	102,946	332	205	100.0	94,002	70.6
Chatfield	5432.0	5500.0	27,428	234,207	5431.94	0.07	27,331	50	0	99.6	0	0.0
Cherry Creek	5550.0	5598.0	12,805	133,134	5550.22	-0.19	12,984	53	114	100.0	179	0.1
Bear Creek	5558.0	5635.5	1,882	30,586	5558.40	-0.03	1,924	22	26	100.0	42	0.1
Papio #11	1121.0	1142.0	3,054	16,907	1121.49	-0.02	3,246	4	8	100.0	192	1.4
Papio #16	1104.0	1121.0	1,211	4,782	1104.70	-0.12	1,300	4	12	100.0	89	2.5
Papio #18	1110.0	1128.2	2,916	10,512	1092.50	0.00	281	0	0	9.6	0	0.0
Papio #20	1095.8	1113.1	2,536	8,611	1096.36	-0.04	2,667	9	9	100.0	131	2.2
Cottonwood	3875.0	3936.0	655	8,385	3856.52	0.00	0	0	0	0.0	0	0.0
Cold Brook	3585.0	3651.4	520	7,200	3582.53	0.01	433	1	0	83.2	0	0.0
Lake Audubon	1847.0	1847.0	323,690	323,690	1846.81	0	INFLOW AND OUTFLOW NOT CALCULATED					
Lake Pocasse	1617.0	1617.0	11,000	11,000	POOL ELEVATION READ MONTHLY BY PROJECT OFFICE							
Salt Creek #02	1335.0	1350.0	1,100	4,957	1333.85	0.05	922	4	0	83.8	0	0.0
Salt Creek #04	1307.4	1322.5	2,531	9,660	1307.14	0.07	2,450	11	0	96.8	0	0.0
Salt Creek #08	1287.8	1302.0	1,780	8,375	1287.86	-0.44	1,794	-31	30	100.0	14	0.2
Salt Creek #09	1271.1	1285.0	1,451	5,864	1271.53	-0.09	1,535	-4	5	100.0	84	1.9
Salt Creek #10	1244.9	1262.0	1,629	7,468	1245.81	-0.04	1,826	9	13	100.0	197	3.4
Salt Creek #12	1232.9	1252.0	1,808	9,415	1234.12	-0.22	2,078	10	36	100.0	270	3.6
Salt Creek #13	1341.0	1355.0	2,161	7,182	1342.00	-0.46	2,403	-4	55	100.0	242	4.8
Salt Creek #14	1244.3	1263.5	7,500	27,597	1245.32	-0.17	8,255	6	72	100.0	755	3.8
Salt Creek #17	1242.4	1266.0	783	6,628	1242.95	-0.17	876	-3	8	100.0	93	1.6
Salt Creek #18	1284.0	1311.0	25,088	96,759	1285.44	-0.07	27,813	96	165	100.0	2,725	3.8

NWO

From: McMahon, John R BG NWD
Sent: Monday, May 23, 2011 10:11 PM
To: Ruch, Robert J COL NWO
Cc: Farhat, Jody S NWD02
Subject: Re: Gov Daugaard Call

Roger. All goodm

----- Original Message -----

From: Ruch, Robert J COL NWO
To: McMahon, John R BG NWD
Cc: Farhat, Jody S NWD02
Sent: Mon May 23 18:50:53 2011
Subject: Gov Daugaard Call

Sir,

FYSA - Gov Daugaard of SD has asked to speak with me tomorrow based on our offer to his EM team.

Jody - I will talk to you before the call.

Still working ND. Had several inquiries from congressional staffers today which we are sorting through this evening.

V/R,
COL Bob Ruch
Message sent via my BlackBerry Wireless Device

NWO

From: Amanda Tetlak [atetlak@mail.kfyrtv.com]
Sent: Monday, May 23, 2011 8:02 PM
To: Quinn, Kevin R NWO; Farhat, Jody S NWD02
Subject: Garrison Dam Releases

Hello there! We just got the news that the Corps will be increasing releases from the garrison dam to 75,000 cfs. In preparation for a story I am working on tomorrow, I am wondering if I can get an interview with someone (even if it's over the phone) regarding this decision. A lot of residents in Bismarck are confused as to why this is happening now, rather than slowly earlier in the spring. I work from 2-11pm, so I'm wondering if we can do the interview tomorrow (Tuesday) afternoon. I will have my phone on me before I come in to work, so feel free to call me on my cell. I just just wanted to get the ball rolling this evening. 701-516-0336

Thanks in advance,

Amanda Tetlak
Political Reporter/Anchor
KFYR-TV
200 N. 4th St.
P.O. Box 1738
Bismarck, ND 58502
701-255-8128 (O)
701-516-0336 (C)
www.kfyrtv.com

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Monday, May 23, 2011 8:29 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02
Subject: Fw: Releases

FYI. Meeting tomorrow at 2:00 to discuss further. Canyon Ferry is a "possible". Yellowtail and Boysen don't look likely.

- Kevin

[REDACTED], P.E.
MRBWM Res Reg Team Lead
[REDACTED] (Office)
[REDACTED] (BB)

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: [REDACTED] K NWO
To: [REDACTED] E NWO; [REDACTED] NWD02
Cc: [REDACTED] NWO; [REDACTED] NWO
Sent: Mon May 23 15:26:58 2011
Subject: Fw: Releases

----- Original Message -----

From: [REDACTED] NWO
To: [REDACTED] NWO
Sent: Mon May 23 15:26:28 2011
Subject: Releases

No replacement storage authorized at this time from the district other than the 1000 release at Tiber.

Kellie

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 5:06 PM
To: Farhat, Jody S NWD02
Subject: RE: Standing by in PAO (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Thanks Jody!

Hang in there, you're doing a great job.
Todd

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 5:00 PM
To: [REDACTED] NWO; [REDACTED] NWO
Subject: RE: Standing by in PAO (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Here's the Riverwatch bulletin. The more comprehensive PR will be coming within the hour (if my phone stops ringing)

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 4:50 PM
To: [REDACTED] NWO; Farhat, Jody S NWD02
Subject: RE: Standing by in PAO (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I am receiving numerous calls and have messages to return. I have spoken with the Bismarck Tribune and the newspaper from Pierre thus far. The NWS also called and wants me to review their flood advisory before they post it. I can't get through to them as their line is busy. There are going to be tons of media inquiries in the coming days...

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 4:16 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Subject: Standing by in PAO (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Any idea yet how close we are to getting the news release information out? I am getting media and public inquiries. I am telling them it's in the works. Thanks kq

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 2:03 PM
To: [REDACTED] NWO; [REDACTED] NWO
Cc: Thomas, Kimberly S NWO
Subject: RE: Press Release/News Conference (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I agree. Anything we tell them will be subject to change. What they can report is that the river will be going up, but how far depends on how this situation shakes out, but either way folks need to prepare for higher river levels asap.

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 2:00 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Cc: Thomas, Kimberly S NWO
Subject: RE: Press Release/News Conference (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I think it would be best for me to decline participation in the news conference at this time. I simply don't have enough good information to be on television conveying the Corps' story yet. I would be willing to do it once we have some good information...

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 1:55 PM
To: [REDACTED] NWO; [REDACTED] NWO
Subject: RE: Press Release/News Conference (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] - we won't have anything to put out until late this afternoon. I've got a conference call with BG McMahon at 2:30 CT, then the call with ND at 3:00, so it will be sometime after that when we're willing to put something out to the public. I know they're anxious but the situation is changing rapidly and we want to put out the best possible information - and even that may change tomorrow.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 1:39 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Subject: Press Release/News Conference (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Jody, [REDACTED]

I was just contacted by the City of Bismarck, they want to know when we are going to issue a press release with the updated forecast? They also want me to do a news conference in Bismarck at 5 or 5:30. Kevin, I asked them (Gloria David, their Public Information Officer)

to contact you about the press release. I'm not sure what I'd convey at the news conference yet???

Todd

[REDACTED] P.E.
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 3:00 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Subject: Fort Peck Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I received your phone message that you may cut our releases because of the high pool at Garrison. We understand and will adjust to whatever you need.

[REDACTED], P.E.
U.S. Army Corps of Engineers
Operations Project Manager
Fort Peck Project
Fort Peck, Montana 59223
PH: [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] LRDOR
Sent: Monday, May 23, 2011 2:45 PM
To: [REDACTED] LRDOR; [REDACTED] LRDOR; DLL-CELRD-WM Lower Ohio-Miss Coordination; [REDACTED]@noaa.gov; [REDACTED]@noaa.gov; [REDACTED] SWD; [REDACTED]@noaa.gov; [REDACTED]@noaa.gov; [REDACTED]@noaa.gov
Subject: NOTES: Lower Ohio / Mississippi Coordination Call - 23 May 2011, 1400 ET / 1300 CT (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Agencies Represented:
National Weather Service:
Hydrometeorological Prediction Center (HPC)
Ohio River Forecast Center (OHRFC)
Lower Mississippi RFC (LMRFC)
Arkansas Basin RFC (ABRFC)

US Army Corps of Engineers:
Great Lakes & Ohio River Division (LRD - Cincinnati)
Mississippi Valley Division (MVD)
Southwestern Division (SWD)
Memphis District (MVM)
Vicksburg District (MVK)
New Orleans District (MVN)

HPC
Upper low over central US controls weather and tracks east over the next 5 days, weakening in the process. Between Tuesday and Friday, the rainfall areal average is 2-4 inches in the Mid Mississippi and Ohio Valley, with some higher spots. Major model differences after Saturday. Friday through Monday an inch to 1.5 inches of rain there.

OHRFC
5-day contingency; a bit higher due to observed heavy rain; With 24 hours' rain Smithland goes to 400 a week out; using 5 days HPC - 550 kcfs on 4 June. MMEFS and some of the ensemble weather models result in a range is 450 to 650 kcfs. 3-5" rain possible for OH-KY-IN region.

ABRFC
The Arkansas River at Pine Bluff crest is 155kcfs in 12 hours; HPC 5-day QPF reduces the rate of fall; most models to 60 kcfs by 5 June

LMRFC
Chester flows a bit higher; peak of 512kcfs on Day 3; Cape G 35.5' on 27th; Thebes 35' on 28 May; Lesser falls on lower Ohio around a foot for past 24 hours. Using Smithland and Chester we are at 47.2' for the Cairo stage --- may level off over the next several days; Downstream seeing falls from New Madrid 0.5 feet through Greenville; 0.3' at Vicksburg; Natchez down showing signs of falls; Ach basin no changes; cresting through BLR; Morgan City 11 feet on 30 May, no changes in forecast levels; similar 5-day rain Cairo forecast now goes up to 49.5 on the 5th of June.

MVM
1468kcfs Memphis flow; no Helena flow yet

MVK

Yazoo river positive flow for the first time in this event

MVN

Diversions today: 660 kcfs at Old River Diversion, cutting to 640kcfs today; 304 kcfs at Bonnet Carre; 114 kcfs at Morganza.

Red River 32kcfs today.

MVD

No comments.

SWD

Additional rain on the white river projects; With exhausted storage and more rain forecast there will be spill at Bull Shoals and also at Norfolk.

LRD

Steadily falling conditions in the lower Ohio basin. Kentucky and Barkley steady as we approach guide curve elevation 359.0. Kentucky and Barkley to average 60 and 50 kcfs through tomorrow.

Next Call

Tuesday May 24, 2011 at 2:00pm Eastern / 1:00pm Central.

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 12:21 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Subject: FW: Missouri River Flow (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody or [REDACTED]-you can contact this person directly or email answer to me and I will get back to them. Your call. kq

-----Original Message-----

From: Tove & Evan Mandigo [<mailto:mandigo@bis.midco.net>]
Sent: Monday, May 23, 2011 12:18 PM
To: [REDACTED] NWO
Subject: Missouri River Flow

I am a homeowner in the Bismarck area potentially impacted by rising water in our area.

I have a question. How come there is a difference between the advertised discharge rate from Garrison Dam and

the indicated rate at Bismarck when you translate the elevation at the gauge to kcfs ?

For instance, your latest published discharge rate is 56kcfs, yet the river stage of 14.25 translates on your web site to 65.5.

Thanks for your help.

Evan Mandigo

Bismarck ND

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 12:09 PM
To: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] Kelly
K NWO; Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWO
Subject: RE: Bismarck measurement (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I have been talking with [REDACTED] with the USGS and [REDACTED] with ND State Water Commission

USGS will make weekly and possibly twice weekly flow measurements at Bismarck. They are requesting additional funding for these measurements. Steve will send me a cost estimate for 10 flow measurements. I am not sure how this should be funded between water control and Garrison funds, but we can talk about it when I get the estimate.

[REDACTED] had several sediment related questions. I will summarize them here and then try to talk with Dan later. Do we have any cross sections, sediment ranges, or models that can be shared with ND Water Commission? They will plan to take water surface elevations every 1-2 weeks in Bismarck. They are not planning to make any bathometric surveys, but they do have the capability if we or someone else thinks it is necessary. They would like to get some geo-referenced photos of the Missouri River to be used to quantify the erosion along the river bank. ND DOT has a plane with this capability. Would we be interested in helping to fund this? She was curious about any other erosion/sediment studies that we will be conducted by our office over the summer.

We also talked about installing rapid deployable gages (RDG) or staff gages in town. Kelly thought and RDG might just confuse people with multiple stage readings. She has not heard any requests for staff gages, but they can install staff gages if necessary.

There has been several requests for flood inundation mapping. Is this something that could be provided? Kelly was concerned that it would be difficult to make a good product if the Oahe backwater is impacting stages and flow.

I would appreciate any feedback.

[REDACTED]
US Army Corps of Engineers
Water Control and Water Quality Section
Hydraulic Engineer

[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Thursday, May 19, 2011 7:11 PM
To: [REDACTED] A NWD02; [REDACTED] NWO; [REDACTED] B NWO; [REDACTED] K
NWO; Farhat, Jody S NWD02
Subject: Re: Bismarck measurement (UNCLASSIFIED)

[REDACTED] with the State Water Commission will be contacting Brian. They are wanting flow measurements as well as surface profiles. They are willing to partner on these efforts. Please let me know if there are additional funding needs?

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: [REDACTED] NWD02
To: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO;
Farhat, Jody S NWD02
Sent: Thu May 19 18:58:05 2011
Subject: Re: Bismarck measurement (UNCLASSIFIED)

[REDACTED]
FYI. The USGS website shows 2 measurements at Bismarck today (May 19). The gage height was 13.20, with flows of 48,700 and 48,900.
Mike

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: [REDACTED] NWO
To: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWO
Sent: Thu May 19 16:01:35 2011
Subject: RE: Water Surface Profile (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]
I also have a call into Bruce and have not heard back from him? I'd like to go with the USGS measurements at the Bismarck gage next week, after we stabilize at the 55,000 cfs releases. As far as taking measurements at Garrison goes, I think we should visit with [REDACTED] to see what he thinks they can do? If it's going to be very difficult for them to get a good reading and they'll have more than a 5% margin of error, I'm not sure what we gain by taking the readings?

-----Original Message-----

From: [REDACTED] NWO
Sent: Thursday, May 19, 2011 3:57 PM
To: [REDACTED] J NWO; [REDACTED] B NWO; [REDACTED] Michael A NWD02; [REDACTED] K NWO
Subject: RE: Water Surface Profile (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I have not been able to reach [REDACTED] by phone. But I have a message in to him. The USGS flow measurements should address concerns about the rating curve at the Bismarck gage.

I heard about some concerns with the Garrison tunnel rating curve. Did we need some flow measurements downstream of the outlet works? This can be difficult at best because it will

take several measurements to establish a good rating curve and there is error involved with each measurement, but they would at least provide an estimate of what is coming out of the outlet works. Let me know if I should talk to the USGS about this and how many measurements would be needed.

[REDACTED]
US Army Corps of Engineers
Water Control and Water Quality Section
Hydraulic Engineer
[REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 16, 2011 9:21 PM
To: [REDACTED] B NWO; [REDACTED] A NWD02; [REDACTED] NWO; [REDACTED]
NWO
Cc: [REDACTED]
Subject: RE: Water Surface Profile (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

All,
I had several e-mails and a voice message on this today. I'll still be participating in the annual inspection at Williston tomorrow, so will follow up on this issue later in the week. So far, it sounds like folks want river elevations. I'm assuming that the surface profiles being done by [REDACTED] shop will meet this request.

Several folks are questioning the rating curve for the Bismarck gage. I'm assuming that the USGS measurements will be utilized to address this issue.

I don't "speak the language" on all the hydro stuff, so if my statements are not accurate, please let me know. I'll also touch base with the SWC, unless you want to talk with them Brian? I'm fine with that too. If you want to visit with them to see what they have to offer, I suggest contacting Bruce Engelhardt. Let me know if you find time to do this? If not, I'll make contact with him later this week.

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 16, 2011 2:29 PM
To: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWO
Subject: RE: Water Surface Profile (UNCLASSIFIED)

Not sure on the communication chain, and I would prefer to keep Sed Section role low profile. Who is taking the lead on replying to Mr. Gunsch?

-----Original Message-----

From: [REDACTED] NWO
Sent: Saturday, May 14, 2011 12:21 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] B NWO; [REDACTED] NWO
Cc: [REDACTED] NWO
Subject: FW: Water Surface Profile (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: FOUO

All,
I did talk with the State Water Commission about this. There are multiple entities interested in obtaining updated flow and stage data on the Missouri River at Bismarck. I know that at Jamestown, we hired the USGS to complete multiple readings for us. I'm not sure about the logistics on this but concur that this would be a great opportunity to update our data, once we stabilize at the higher flows.

The State Water Commission indicated that they'd be willing to assist however they could. I do not understand the logistics of this or how we make it happen but strongly support the idea. Please let me know if you need additional funding or if you need me to coordinate some issues with the State?

-----Original Message-----

From: Michael Günsch [mailto:mgunsch@houstoneng.com]

Sent: Saturday, May 14, 2011 11:44 AM

To: [REDACTED] NWD02

Cc: [REDACTED] NWO; Fleck Terry (tfleck@attitudedr.com); Gailen Narum; Craig Odenbach; Sando, Todd S. (tsando@nd.gov); [REDACTED] NWO; Wade Bachmeier; Bill Robinson (brobinson@northlandfinancial.net); Bruce W. Engelhardt (bengelhardt@nd.gov); kcasteel@nd.gov
Subject: RE: Water Surface Profile

[REDACTED]:

Given the high flows on the Missouri of extended duration the Burleigh County Water Resource District would like to have the COE obtain elevation data along the river for these flow conditions. This is an important opportunity to gather information on the system conveyance and various flood stages. As previously noted the rating curves at Bismarck indicate elevations of 6 inches or more higher for these designated flows. How this extends to larger flows is unknown, but is critical in future management of the Missouri River floodplain, and to forecast potential high flow impacts. Therefore, this information needs to be obtained.

I understand the COE has obtained elevation information in the past, but the timing of these flows makes it critical to gather data as the flows occur and change. The question is who is going to gather this information? Understand the NDSWC might be interested in assisting. Let me know what is being planned and when it will be completed.

Thanks,

Michael H. Gunsch, PE

Senior Project Manager/Principal

Description: Description: cid:021080921@26012009-10E2
3712 Lockport Street

Bismarck, ND 58503
Phone (701) 323-0200

<http://www.houstonengineeringinc.com/> <<http://www.houstonengineeringinc.com/>>

Cell (701) 527-2134
Fax (701) 323-0300
e-mail mgunsch@houstoneng.com <<mailto:mgunsch@houstonengineeringinc.com>>

P Please consider the environment before printing this e-mail

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Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

NWO

From: [REDACTED] NWD
Sent: Monday, May 23, 2011 10:58 AM
To: Farhat, Jody S NWD02
Subject: FW: Exclusive Flood Zones (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

fyi

-----Original Message-----
From: Anderson, G Witt NWD
Sent: Monday, May 23, 2011 8:57 AM
To: Tipton, Robert A Col NWD
Subject: RE: Exclusive Flood Zones (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Maybe we can discuss on the CMT AAR in a few minutes. I think, generally, the Districts have this (due to the locality aspects of the EM piece)...with Jody's lead on the mainstem operation components.

Maybe NWO and NWK AO codel calls with Jody on each.

We probably need our internal calls daily, or more, to stay synched. And in those decided the appropriate outreach strategy.

Witt

-----Original Message-----
From: Tipton, Robert A Col NWD
Sent: Monday, May 23, 2011 8:21 AM
To: Anderson, G Witt NWD
Subject: FW: Exclusive Flood Zones (UNCLASSIFIED)

Witt,

I am soliciting your thoughts on this. I know last year we primarily worked the strategic communications out of Jody's shop in terms of notifying the public and this worked well. I know she leverages the PAO from NWO, but beyond that - should we be setting up some sort of Regional CODEL call on this...or should we continue to primarily work this through the Districts with us participating.

I know what we did last year was effective --- but this year could be even more exciting the way things are shaping up.

Bob

Robert A. Tipton, P.E.
COL, EN
Deputy Commander
Northwestern Division
U.S. Army Corps of Engineers

503-808-3701

-----Original Message-----

From: Farhat, Jody S NWD02

Sent: Monday, May 23, 2011 8:00 AM

To: Tipton, Robert A Col NWD

Cc: Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; Ruch, Robert J COL NWO;

Hofmann, Anthony J COL NWK

Subject: RE: Exclusive Flood Zones (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Sir - we are very concerned about conditions from Montana to Missouri. We need to increase releases throughout the system. There will certainly be impacts in the Bismarck and Pierre areas, and between Fort Randall and Gavins Point. There was also heavy rain below the system, so calls are starting to pour in from Missouri including a call from Dan Engemann (Cong Luektemeyer's office) this morning asking what we can do to help out the lower river.

Back in 1997 when we had conditions similar to this, the Omaha District did advanced measures in Pierre. We're working on another updated forecast this morning, but I would imagine something similar will be needed soon; same for Bismarck if there is any public infrastructure in the flood way. We may soon be setting record releases at both projects, but these releases are necessary to avoid spillway flows.

The situation here is critical. We're doing everything we can to move water out of the reservoirs while maintaining good coordination with the state and local agencies and the Districts.

Jody

-----Original Message-----

From: Tipton, Robert A Col NWD

Sent: Monday, May 23, 2011 9:41 AM

To: Farhat, Jody S NWD02

Cc: Anderson, G Witt NWD; [REDACTED] NWD; McMahon, John R BG NWD; Ruch, Robert J COL NWO;

Hofmann, Anthony J COL NWK

Subject: Exclusive Flood Zones

Jody,

Now that we have officially reached this point with Oahe and Garrison...are there any additional measures we need to take at this point that we did not discuss last week.

RT

Robert A. Tipton, P.E.

COL, EN

Deputy Commander

Northwestern Division

U.S. Army Corps of Engineers

503-808-3701

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Monday, May 23, 2011 10:20 AM
To: Farhat, Jody S NWD02; [REDACTED] NWD02
Subject: May precipitation to date in Montana (UNCLASSIFIED)
Attachments: 20110522_month2datePrecipitation.pptx

Classification: UNCLASSIFIED

Caveats: NONE

FYI.

[REDACTED] P.E.
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED] (fax)

-----Original Message-----

From: [REDACTED] NWD02
Sent: Monday, May 23, 2011 9:48 AM
To: [REDACTED] NWD02
Subject: May precipitation to date in Montana (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] E.
USACE, Northwestern Division
Missouri Basin Water Management Division
[REDACTED]
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED

Caveats: NONE

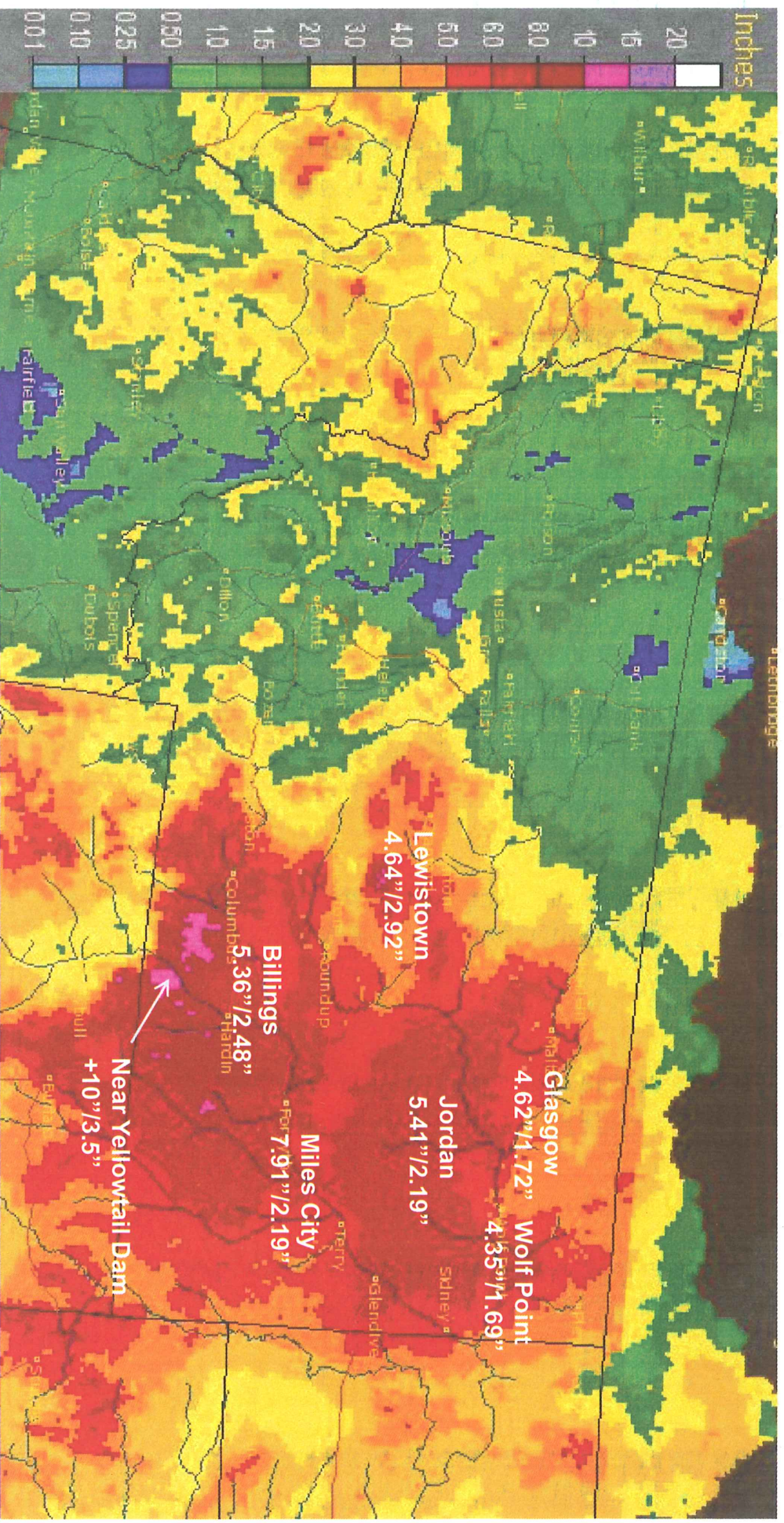
Classification: UNCLASSIFIED

Caveats: NONE

Montana May 2011 Precipitation to Date (accumulated / normal May)

Montana: Current Month to Date Observed Precipitation

Valid at 5/22/2011 1200 UTC- Created 5/22/11 15:42 UTC



From: Anderson, G Witt NWD
Sent: Monday, May 23, 2011 9:50 AM
To: Farhat, Jody S NWD02
Subject: FW: Yellowstone @ 154,000 CFS! (UNCLASSIFIED)
Attachments: Yellowstone 744.jpg; Yellowstone 745.jpg; Yellowstone 746.jpg

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----

From: Streckfuss, Ted H NWO
Sent: Monday, May 23, 2011 7:43 AM
To: Ruch, Robert J COL NWO; [REDACTED] NWO; [REDACTED] NWO; Anderson, G Witt
NWD; Blechinger, Erik T NWO; [REDACTED] NWK
Subject: FW: Yellowstone @ 154,000 CFS! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Some great pic's of Intake.

Ted

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 9:38 AM
To: Streckfuss, Ted H NWO
Subject: FW: Yellowstone @ 154,000 CFS! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

A big river on a tear.

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 9:29 AM
To: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
NWO; [REDACTED] NWO; [REDACTED] NWO; 'Jerry Nypen'; [REDACTED] Mark A. NWO;
[REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO

Subject: Yellowstone @ 154,000 CFS! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE







[REDACTED] NWO

From: Tipton, Robert A Col NWD
Sent: Monday, May 23, 2011 9:41 AM
To: Farhat, Jody S NWD02
Cc: Anderson, G Witt NWD; [REDACTED] NWD; McMahon, John R BG NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK
Subject: Exclusive Flood Zones

Jody,

Now that we have officially reached this point with Oahe and Garrison...are there any additional measures we need to take at this point that we did not discuss last week.

RT

Robert A. Tipton, P.E.
COL, EN
Deputy Commander
Northwestern Division
U.S. Army Corps of Engineers

503-808-3701

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 9:37 AM
To: Farhat, Jody S NWD02
Subject: RE: Knife River (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Ok, I'll keep you posted on what I hear. Daggett is very concerned about the flows he's seeing in MT, both into Ft Peck as well as Garrison. I'm not sure what Eric's issue is yet as we've been playing phone tag...

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 9:35 AM
To: [REDACTED] NWO
Subject: RE: Knife River (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I offered today, but he thought it would be Wed before he had everyone notified.

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 9:26 AM
To: Farhat, Jody S NWD02
Subject: RE: Knife River (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Ft Peck and Oahe OPM's have both called me in the past 12 hours and expressed concerns about Water Management. Is Wednesday's call soon enough?

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, May 23, 2011 9:04 AM
To: [REDACTED] NWO; [REDACTED] NWD02; Thomas, Kimberly S NWO
Subject: RE: Knife River (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Bismarck is 14.2 this morning; it was 13.4 Friday morning.

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 8:50 AM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; Thomas, Kimberly S NWO
Subject: RE: Knife River (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

The Knife peaked at just over 17 feet (about 5,000 cfs), half of what they were predicting earlier, but the stage at Bismarck continued to rise. I spoke with a homeowner north of the Heskitt Power Plant this morning. He said that he saw a foot rise over the weekend. I can't get to the river stage website this morning but I didn't think it came up quite that high?

-----Original Message-----

From: Farhat, Jody S NWD02

Sent: Saturday, May 21, 2011 7:38 PM

To: [REDACTED] NWO; [REDACTED] NWD02; Thomas, Kimberly S NWO

Subject: Re: Knife River

[REDACTED] is going to call the operator and cancel the increased planned for tomorrow morning.

Jody

----- Original Message -----

From: [REDACTED] NWO

To: Farhat, Jody S NWD02

Sent: Sat May 21 12:14:12 2011

Subject: Knife River

Jody,

There seems to be a lot of water running in ditches and drainages. I checked the NWS gage for the Knife River at Hazen and they are forecasting a stage of 24 feet by Monday, which equates to about 10,000 cfs. I'm not sure what your folks are seeing but I'm wondering about tomorrow's 2,000 cfs increase from Garrison...

Message sent via my BlackBerry Wireless Device

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 9:29 AM
To: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO;
[REDACTED] NWO
Cc: [REDACTED] NWO; Farhat, Jody S NWD02
Subject: RE: SD Riverwatch Calls (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
How about Montana?

I have water everywhere. Fort Peck has over 120,000 cfs coming into it this morning.

[REDACTED]
-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 8:17 AM
To: [REDACTED] NWO; [REDACTED] J NWO; [REDACTED] A NWO; Q [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO
Subject: SD Riverwatch Calls (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Morning Guys,

I just got off the phone with [REDACTED] and Jody Farhat. We are looking to do a SD Riverwatch call similar to the ones going on with [REDACTED] in ND. Todd is such a trend setter.

To that end, we need to know from each of you who in your area wants/needs to be on the call. Right now it is going to be scheduled at 1500hrs Mon, Wed and Fri. May drop off is things stabilize. We are looking for the first call on 25May11.

Am hoping that [REDACTED] can coordinate the information decimation. Figure that Name, Phone Number and Email address are required. [REDACTED] let us know if you need more or cannot work this.

I will take care of the State Agencies here in Pierre.

Let me know what I have missed.

[REDACTED]
Classification: UNCLASSIFIED
Caveats: NONE

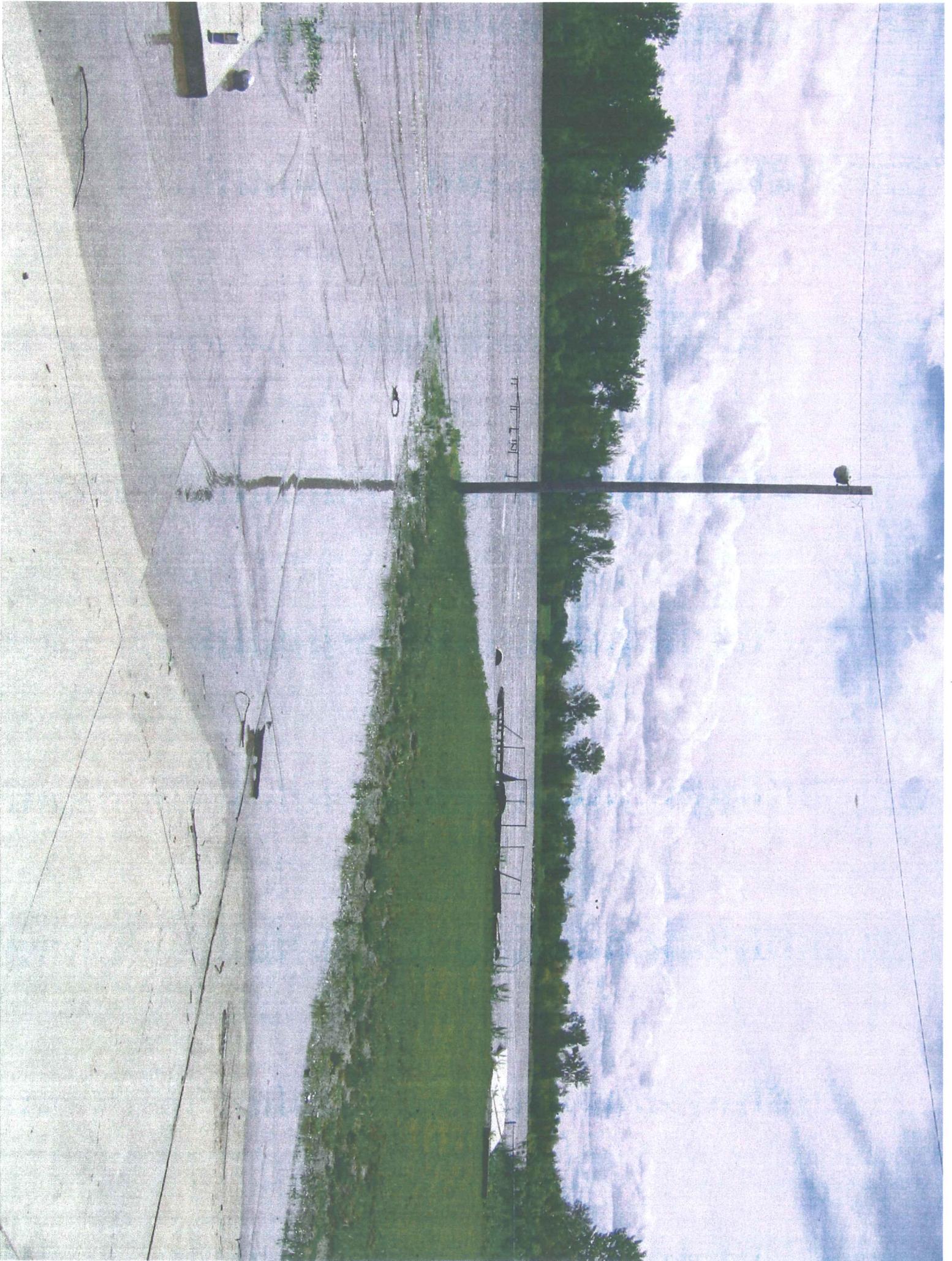
NWO

From: [REDACTED] NWD
Sent: Monday, May 23, 2011 6:37 AM
To: [REDACTED] NWO; [REDACTED] NWD02; Farhat, Jody S NWD02; [REDACTED]
[REDACTED] NWO; [REDACTED] R NWD02; [REDACTED] NWD02; [REDACTED]
[REDACTED] NWD02; [REDACTED] D NWD02; [REDACTED] A NWD02; [REDACTED]
[REDACTED] D NWD02; [REDACTED] IWD02
Subject: High Water Photos of MO RIV at Anchor Inn and Sandpiper Cove Omaha 22May11
(UNCLASSIFIED)
Attachments: IMG_0384.JPG; IMG_0381.JPG; IMG_0382.JPG; IMG_0383.JPG

Classification: UNCLASSIFIED
Caveats: NONE

fyi

Classification: UNCLASSIFIED
Caveats: NONE









NWO

From: [REDACTED] NWD
Sent: Monday, May 23, 2011 6:34 AM
To: [REDACTED] NWO; [REDACTED] NWD02; Farhat, Jody S NWD02; [REDACTED]
[REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED]
[REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD;
[REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK;
[REDACTED] NWD; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK;
NWO; [REDACTED] NWO; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK;
NWO; [REDACTED] NWO; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK;
[REDACTED] NWO
Cc: [REDACTED] M NWO; [REDACTED] NWK; [REDACTED] L NWK
Subject: Photos and Videos of MV Mary Lynn - Omaha Area (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I took several photos and a few videos on May 22, 2011 of the MV Mary Lynn with the Novozymes barges in the Omaha, NE area at 4 locations along the Missouri River. These photos and videos are available for you to download from the following Corps ftp website:

FTP Download Instructions IE7 or IE8:

Click on link:

<ftp://ftp.usace.army.mil/usace/nwd/>

Go to "Page" in upper right toolbar of screen and click on scroll arrow;
Select "Open FTP Site in Windows Explorer"; wait a few seconds for the window to open
Highlight the folder "MV Mary Lynn 22May11" that you want to download;
Arrow in highlighted area and then right click;
Select "Copy to folder";
Select a folder or location to copy folder to or create a new folder;
Click OK;
Download will begin showing a completion status box.

I know there are a lot of photos to view, but surely there are at least 5 great ones for you.



Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 3:58 PM
To: [REDACTED]
Subject: Latest PR (UNCLASSIFIED)
Attachments: HighFlows_MR May_24_2011 (6).docx

Classification: UNCLASSIFIED
Caveats: NONE

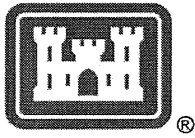
[REDACTED] thanks for drafting this. It really is a help.

Kevin - it's ready to do after your review. Please distribute widely, rather than to just the Dakotas as we've been doing with previous releases.

Thanks for your help

Jody

Classification: UNCLASSIFIED
Caveats: NONE



NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

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For Immediate Release:
May 24, 2011

High flows thrust Missouri Basin into uncharted territory

Omaha, Neb. -- Updated forecasts from the National Weather Service are suggesting record flows and heavier volume runoff than earlier models predicted, Corps river managers announced today.

"There's no good news," said Jody Farhat, Chief of the Corps' Missouri River Basin Water Management Division in Omaha. "Water releases are forecast to reach 85,000 cubic feet per second (cfs) out of Garrison and Oahe dams because of steady rain and an above-normal mountain snowpack."

Farhat said that the Corps is approaching the top of the gages at all three upper basin dams - Fort Peck, Garrison and Oahe. "Basically, there is little or no storage left in our reservoirs," she said.

For the Bismarck area, Garrison releases of 85,000 cfs will mean reaching a stage of 17.5 to 18 feet, a situation not encountered since Garrison dam was built in the 1950's. "It moves us into uncharted territory," said Farhat. The previous record release from Garrison dam was 65,200 cfs in 1975.

The Pierre area below Oahe dam will fare a little better because of a buyout program for low-lying properties and repair of drainage problems during the past five years. Still, Pierre will see stages not seen since the dam was constructed. The record release from Oahe dam prior to this event was 59,300 cfs in 1997.

At Gavins Point farther south, Farhat expects flows to reach 75,000 cfs by June 1, 5,000 cfs above the record set in 1997, and additional increases to the 80,000 to 85,000 cfs range are likely by early June.

The Corps' latest water releases are based on the newest river forecasts for the Yellowstone River provided by the National Weather Service's Missouri Basin River Forecast Center.

"This is the situation where we are today," said Farhat, "but it's not the worst case scenario because snowmelt and additional heavy rainfall may mean even higher releases."

Snowpack in the reach above Fort Peck hit 141 percent of normal peak, with current conditions at about 108 percent of the normal peak accumulation. The snowpack above Garrison Dam reached 136 percent of normal peak, but is slow to melt, with 132 percent of the normal peak accumulation remaining and actually gaining snow in some of the higher elevations.

For more information, visit the *Spring 2011 Flood Response* site at www.nwo.usace.army.mil.

U.S. ARMY CORPS OF ENGINEERS – NORTHWESTERN DIVISION

P.O. Box 2870; Portland, OR 97208-2870

Web site: www.nwd.usace.army.mil

Burke, Linda F NWO

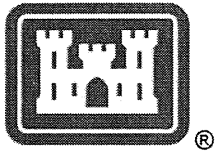
From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 5:43 PM
To: [REDACTED]
Subject: Riverwatch Bulletin #12 (UNCLASSIFIED)
Attachments: NR-RIVERWATCH5-11.No12docx.docx

Classification: UNCLASSIFIED
Caveats: NONE

Note I didn't track changes this time.

Jody

Classification: UNCLASSIFIED
Caveats: NONE



U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: July 6, 2011

Contact:

Jody Farhat 402-996-3840

Riverwatch Daily – Garrison and Oahe Dams

Update #12

OMAHA, Neb. The situation in the Missouri River basin continues to deteriorate due to heavy rain in eastern Montana and western North Dakota, necessitating higher releases from Garrison Dam in Riverdale, N.D. and Oahe Dam near Pierre, S.D. to evacuate stored flood waters.

In expectation of continued high runoff, the U.S. Army Corps of Engineers will release a daily bulletin detailing releases and levels for both dams. Conditions in the Missouri River basin are changing rapidly so forecasted releases shown below are subject to change with little notice. Below are the May 24, 2011 statistics for the two dams:

Daily Information Update

Garrison Dam and Lake Sakakawea:

- Midnight reservoir level – 1850.4 feet mean sea level
- Yesterday's Reservoir Inflow – 113,000 cubic feet per second (cfs)
- Current Reservoir Release – 70,000 cfs
- Annual Flood control and multiple use zone – El. 1,837.5 to 1,850 msl
- Exclusive flood control zone – El. 1,850-1,854 msl
- Top of spillway gates - 1,854 feet msl
- 6 a.m. River Stage at Bismarck-14.5 feet (Flood stage at Bismarck-16.0 feet)
- Planned scheduled releases, subject to change based on changing reservoir and river conditions:
 - Wednesday May 25: Increase to 75,000 cfs at 8 a.m.
 - Thursday May 26: Hold 75,000 cfs
 - Friday May 27: Increase to 80,000 cfs at 8 a.m.
 - Saturday May 28 and Sunday May 29: Hold 80,000 cfs
 - Monday May 30: Increase to 85,000 cfs at 8 a.m.

Oahe Dam and Lake:

- Midnight reservoir level – 1617.6 feet msl
- Yesterday's Reservoir Inflow – 94,000 cfs
- Current Reservoir Release – 65,000 cfs
- 6 am river stage at Pierre 12.5 feet (Flood stage 15.0)
- Annual Flood control and multiple use zone – El. 1607.5 to 1617.0 feet msl
- Exclusive flood control zone – El. 1617.0 to 1620.0 feet msl
- Top of spillway gates: - 1620.0 feet msl
- Planned scheduled releases, subject to change based on changing reservoir and river conditions:
 - Wednesday, May 25: Increase to 70,000 cfs
 - Thursday May 26: Increase to 75,000 cfs
 - Friday May 27: Increase to 80,000 cfs
 - Saturday May 28: Increase to 85,000 cfs
 - Sunday May 29: Hold 85,000 cfs

U.S. Army Corps of Engineers – Omaha District 1616 Capitol Ave., Omaha, Neb. 68102

<http://www.nwo.usace.army.mil/>

Find us on Facebook at [facebook.com/OmahaUSACE](https://www.facebook.com/OmahaUSACE) and on Twitter at twitter.com/OmahaUSACE

[Type text]

Garrison Dam is a 210-foot high rolled earth embankment. Discharges are normally passed through five power tunnels having a combined discharge capacity of 41,000 cfs, and three flood tunnels having a combined discharge capacity of 98,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with 28 tainter gates and has a maximum discharge capacity of 660,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will go through the power plant and regulating tunnels.

Oahe Dam is a 245-foot high rolled earth embankment. Discharges are normally passed through seven power tunnels having a combined discharge capacity of 56,000 cfs, and six flood tunnels having a combined discharge capacity of 111,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with eight tainter gates and has a maximum discharge capacity of 80,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will be made through the power plant and outlet tunnels.

Daily bulletin updates are available from the Corps' website: <http://www.nwo.usace.army.mil/>

Northwestern Division's water management website for the most up to date information:
<http://www.nwd-mr.usace.army.mil/rcc/index.html>

U.S. Army Corps of Engineers Contact: Jody Farhat, Chief, Missouri River Basin Water Management 402-996-3840

###

From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 6:14 PM
To: Chris Bjorke
Subject: RE: Garrison reservoir level (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

1837.7

-----Original Message-----

From: Chris Bjorke [<mailto:Chris.Bjorke@bismarcktribune.com>]
Sent: Tuesday, May 24, 2011 6:09 PM
To: Farhat, Jody S NWD02
Subject: Garrison reservoir level

Can you repeat the reservoir level at the start of the run-off year? 1,838?

Thanks.

Chris

Christopher Bjorke
Business reporter
The Bismarck Tribune
701-250-8261

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 9:55 PM
To: McMahon, John R BG NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO; [REDACTED]
[REDACTED]
[REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
Subject: FW: Discharge measurement at Yellowstone River near Sidney (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This is a (very) small piece of good news. It's certainly not a game changer, just one piece of the truth changed in a way that doesn't work against us. This may lower our inflow forecast to Garrison a bit, but won't change our planned release schedule.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, May 24, 2011 8:49 PM
To: Farhat, Jody S NWD02; [REDACTED]
Subject: Fw: Discharge measurement at Yellowstone River near Sidney

This is significant! The NWS and us were showing 170 kcfs for this stage.

[REDACTED]
[REDACTED]
MRBWM Res Reg Team Lead
[REDACTED]
[REDACTED]

Message sent via my BlackBerry Wireless Device

From: Wayne R Berkas <wrberkas@usgs.gov>
To: [REDACTED]
Cc: Melvin K White <mwhite@usgs.gov>; John M Kilpatrick <jmkilpat@usgs.gov>; Julie.Meyer@NOAA.gov <Julie.Meyer@NOAA.gov>; Gregg J Wiche <gjwiche@usgs.gov>; Steven M Robinson <smrobins@usgs.gov>
Sent: Tue May 24 17:37:10 2011
Subject: Discharge measurement at Yellowstone River near Sidney

All,

Our team of Hydrologic Technicians made a discharge measurement on the Yellowstone River near Sidney today:

Date/Time	05-24-2011 @ 1650
GH	21.81
Discharge	110,900 cfs

Previous high flow measurements (1978) indicated a bend in the rating due to the river overflowing the banks. This measurement indicates a straight-line projection of the rating below 15 feet. The new rating will be available tomorrow.

I applied the new rating at 1745.

Wayne R. Berkas
Montana Data Section Chief
U.S. Geological Survey
3162 Bozeman Ave.
Helena, MT 59601
(406) 457-5903
wrberkas@usgs.gov

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 11:08 PM
To: [REDACTED]; 'cfong@nd.gov'
Subject: Re: news release -- just released (UNCLASSIFIED)

Cecily - the forecast shown below is incorrect. We expect stages in the Bismarck area of 17.5 to 18 feet when the 85000 release works it's way to Bismarck early next week.

Call or email if you have any questions.

Jody
[REDACTED]

----- Original Message -----

From: Quinn, Kevin R NWO
To: Farhat, Jody S NWD02
Sent: Tue May 24 20:27:36 2011
Subject: Fw: news release -- just released (UNCLASSIFIED)

Sent from my BlackBerry Wireless Handheld

----- Original Message -----

From: Fong, Cecily S. <cfong@nd.gov>
To: [REDACTED]
Cc: Senger, Mary H. <msenger@nd.gov>; David, Gloria A. <gdavid@nd.gov>; Stockert, Gary K. <gstockert@nd.gov>; Lapp, Tammy L. <tlapp@nd.gov>; Wilz, Greg M. <gwilz@nd.gov>; Anton, Amy J. <ajanton@nd.gov>
Sent: Tue May 24 20:21:56 2011
Subject: RE: news release -- just released (UNCLASSIFIED)

Hi [REDACTED]

First--and most importantly--we are hearing about a rumor in the Bis-Man area that the river level is going to reach 24'. We need you to identify a Corps spokesperson to counteract this rumor as quickly as possible. The rumor was heard on KFYZ-AM about an hour and a half ago. Just had a look for your cell number to give you a shout to expedite this, but found I don't have it. Please send it to me when you can.

I've also just had a conversation with the Burleigh County Emergency Manager. Apparently, she is not receiving your news releases. Please make sure that the following are receiving:

Gloria David - gdavid@nd.gov
Mary Senger - msenger@nd.gov
Gary Stockert - gstockert@nd.gov
Tammy Lapp-Harris - tlapp@nd.gov

In the meantime, I will call Todd Lindquist to see if he has any ideas about how the Corps could help us diffuse this rumor.

Get back to me as soon as you can.

Thanks.

Cecily Fong
Public Information Officer
NDDDES
701.328.8154
701-391-8158

From: [REDACTED]
Sent: Tuesday, May 24, 2011 4:35 PM
To: Fong, Cecily S.; [REDACTED] Farhat, Jody S NWD02; [REDACTED]
Subject: news release -- just released (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This news release went out on VOCUS to media in all basin staes, to all congressional and state offices, as well as to employees.

May still be sending a RIVERWATCH DAILY, if Jody is able to get to it. May also send a news release as requested by Eric Stasch. Jody has an onslaught of calls and queries to answer. [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: McMahon, John R BG NWD
Sent: Tuesday, May 24, 2011 11:06 PM
To: Farhat, Jody S NWD02; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO; Bertino, John J Jr NWO; [REDACTED] NWO; [REDACTED] NWO; Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Cc: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: Re: Discharge measurement at Yellowstone River near Sidney (UNCLASSIFIED)

We'll take ALL the good news we can get, no matter how small....thanks for sharing this.
Vr/John McMahon

----- Original Message -----

From: Farhat, Jody S NWD02
To: McMahon, John R BG NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO; Bertino, John J Jr NWO; [REDACTED] NWO; [REDACTED] NWO; Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Cc: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Sent: Tue May 24 19:54:39 2011
Subject: FW: Discharge measurement at Yellowstone River near Sidney (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This is a (very) small piece of good news. It's certainly not a game changer, just one piece of the truth changed in a way that doesn't work against us. This may lower our inflow forecast to Garrison a bit, but won't change our planned release schedule.

Jody

-----Original Message-----

From: [REDACTED] NWD02
Sent: Tuesday, May 24, 2011 8:49 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: Fw: Discharge measurement at Yellowstone River near Sidney

This is significant! The NWS and us were showing 170 kcfs for this stage.

- [REDACTED]

[REDACTED]
MRBWM Res Reg Team Lead
[REDACTED] (Office)
[REDACTED] (BB)

Message sent via my BlackBerry Wireless Device

From: Wayne R Berkas <wrberkas@usgs.gov>

To: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED]

NWD02; [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02

Cc: Melvin K White <mwhite@usgs.gov>; John M Kilpatrick <jmkilpat@usgs.gov>;

Julie.Meyer@NOAA.gov <Julie.Meyer@NOAA.gov>; Gregg J Wiche <gjwiche@usgs.gov>; Steven M Robinson <smrobins@usgs.gov>

Sent: Tue May 24 17:37:10 2011

Subject: Discharge measurement at Yellowstone River near Sidney

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Wayne R. Berkas
Montana Data Section Chief
U.S. Geological Survey
3162 Bozeman Ave.
Helena, MT 59601
(406) 457-5903
wrberkas@usgs.gov

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: McMahon, John R BG NWD
Sent: Tuesday, May 24, 2011 11:05 PM
To: Farhat, Jody S NWD02
Subject: Re: Paul Johnston (UNCLASSIFIED)

Great--although I must say [REDACTED] et al have been doing a fine job. Thanks.
See you in the morning.
Vr/John McMahon

----- Original Message -----

From: Farhat, Jody S NWD02
To: McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD
Cc: Ruch, Robert J COL NWO; [REDACTED] NWO; Quinn, Kevin R NWO; [REDACTED] NWD; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Sent: Tue May 24 20:29:34 2011
Subject: FW: Paul Johnston (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir - this is one more piece of good news for today. Paul Johnston, the former chief of Public Affairs for the Omaha District and NWD-Omaha will be reporting for duty in my office tomorrow as a rehired annuitant. He's top notch; he knows our reservoir system in and out, he's great at developing talking points and consistent messages, and he's able to talk to reporters about the details of our regulation of the system, taking a huge load off me and others. Kevin Quinn and Clare Perry have done an outstanding job over the past couple weeks and their continued support will be necessary, but adding Paul with his many years of Missouri River experience to the mix will be great help.

Thanks to [REDACTED] and COL Ruch for making this happen.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 7:11 PM
To: Farhat, Jody S NWD02
Subject: Paul Johnston (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

JODY -- Mr. Paul Johnston has agreed to return as a rehired annuitant. He will report 25 May at approximately 11:00 a.m. Please contact me if you have any questions. Thank you.

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 11:04 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO; Quinn, Kevin R NWO
Cc: Schenk, Kathryn M NWO; [REDACTED] HQ02@NWO
Subject: Rumors & Tomorrow's Press Conference (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

All,
I just received a phone call from the State's Dept. of Emergency Services, Public Information Officer, Cecily Fong. They are requesting USACE assistance in addressing several rumors which are propagating through the media. I will attempt to address these in tomorrow's News Conference.

- A local official was on the radio talking about preparing for a river stage of 24 feet. The State DES is concerned this is setting unwarranted panic in the public. Cecily asked me to convey that a 24 foot stage was not in the realm of discussions. I told her that I could not do that, but would address the current stage based on our current forecast.
- A local commissioner was on the radio this afternoon, talking about the high inflows and he stated that Ft. Peck currently has uncontrolled releases through its spillway and those flows are headed our way. This program was re-broadcast again tonight.

Kevin, Cecily sent you a message regarding this issue but did not have an afterhours contact number for you so she called me. One other suggestion she had was that perhaps we should utilize a term other than "evacuation" when we are talking about removing water from the reservoirs?

At this evening's City flood preparation meeting the Mayor of Bismarck announced that I would be participating in tomorrow's press conference which is scheduled at 10:00 a.m. Kim has told me that she also wants me to participate in the press conference. I will do so, but would appreciate some input from PAO, EM and NWD Water Management on what you'd like me to convey? I'm attempting to represent many segments of USACE at these press conferences and do not feel as though I am fully prepared to do so. At tomorrow's press conference my intent is to reiterate the current forecast and address the rumors which the state has raised as a concern.

[REDACTED]
[REDACTED]
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

NWO

From: Anderson, G Witt NWD
Sent: Tuesday, May 24, 2011 10:50 PM
To: Farhat, Jody S NWD02
Subject: Re: Paul Johnston (UNCLASSIFIED)

That's great Jody. And the Yellowstone rating too.

Witt

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: Farhat, Jody S NWD02
To: McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD
Cc: Ruch, Robert J COL NWO; [REDACTED] NWO; Quinn, Kevin R NWO; [REDACTED] NWD; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Sent: Tue May 24 20:29:34 2011
Subject: FW: Paul Johnston (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir - this is one more piece of good news for today. Paul Johnston, the former chief of Public Affairs for the Omaha District and NWD-Omaha will be reporting for duty in my office tomorrow as a rehired annuitant. He's top notch; he knows our reservoir system in and out, he's great at developing talking points and consistent messages, and he's able to talk to reporters about the details of our regulation of the system, taking a huge load off me and others. Kevin Quinn and Clare Perry have done an outstanding job over the past couple weeks and their continued support will be necessary, but adding Paul with his many years of Missouri River experience to the mix will be great help.

Thanks to [REDACTED] and COL Ruch for making this happen.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 7:11 PM
To: Farhat, Jody S NWD02
Subject: Paul Johnston (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

JODY -- Mr. Paul Johnston has agreed to return as a rehired annuitant. He will report 25 May at approximately 11:00 a.m. Please contact me if you have any questions. Thank you.

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Quinn, Kevin R NWO
Sent: Tuesday, May 24, 2011 10:28 PM
To: Farhat, Jody S NWD02
Subject: Fw: news release -- just released (UNCLASSIFIED)

Sent from my BlackBerry Wireless Handheld

----- Original Message -----

From: Fong, Cecily S. <cfong@nd.gov>
To: Quinn, Kevin R NWO
Cc: Senger, Mary H. <msenger@nd.gov>; David, Gloria A. <gdavid@nd.gov>; Stockert, Gary K. <gstockert@nd.gov>; Lapp, Tammy L. <TLapp@nd.gov>; Wilz, Greg M. <gwilz@nd.gov>; Anton, Amy J. <ajanton@nd.gov>
Sent: Tue May 24 20:21:56 2011
Subject: RE: news release -- just released (UNCLASSIFIED)

Hi Kevin,

First--and most importantly--we are hearing about a rumor in the Bis-Man area that the river level is going to reach 24'. We need you to identify a Corps spokesperson to counteract this rumor as quickly as possible. The rumor was heard on KFYZ-AM about an hour and a half ago. Just had a look for your cell number to give you a shout to expedite this, but found I don't have it. Please send it to me when you can.

I've also just had a conversation with the Burleigh County Emergency Manager. Apparently, she is not receiving your news releases. Please make sure that the following are receiving:

Gloria David - gdavid@nd.gov
Mary Senger - msenger@nd.gov
Gary Stockert - gstockert@nd.gov
Tammy Lapp-Harris - tlapp@nd.gov

In the meantime, I will call Todd Lindquist to see if he has any ideas about how the Corps could help us diffuse this rumor.

Get back to me as soon as you can.

Thanks.

Cecily Fong
Public Information Officer
NDDDES
701.328.8154
701-391-8158

From: Quinn, Kevin R NWO [Kevin.R.Quinn@usace.army.mil]
Sent: Tuesday, May 24, 2011 4:35 PM
To: Fong, Cecily S.; Lindquist, Todd J NWO; Farhat, Jody S NWD02; Thomas, Kimberly S NWO; Stasch, Eric D NWO
Subject: news release -- just released (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

This news release went out on VOCUS to media in all basin staes, to all congressional and state offices, as well as to employees.

May still be sending a RIVERWATCH DAILY, if Jody is able to get to it. May also send a news release as requested by Eric Stasch. Jody has an onslaught of calls and queries to answer. kq

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Thomas Kimbrell NWO
Sent: Tuesday, May 24, 2011 10:02 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; [REDACTED] NWO; Fletcher, Patsy L HQ02; Blechinger, Erik T NWO; [REDACTED] LA@NWO; [REDACTED] HQ02@NWO
Subject: RE: Flood Update #69 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: FOUO

All,

Please ensure to check your numbers and then double check your numbers. There are a lot of numbers out there right now and they have to be accurate. Please disregard the dam data in the original email and replace with these.

Fort Peck Dam (MT)

POOL ELEVATION: 2244.68 ft-msl

24 HR CHANGE: 0.57'

INFLOW(cfs): 88,000

RELEASE(cfs): 10,000

Garrison Dam (ND)

POOL ELEVATION: 1850.40 ft-msl

24 HR CHANGE: 0.27'

INFLOW(cfs): 113,000

RELEASE(cfs): 70,000

Oahe Dam (SD)

POOL ELEVATION: 1617.62 ft-msl

24 HOUR CHANGE: 0.2'

INFLOW(cfs): 94,000

RELEASE(cfs): 64,000

Big Bend Dam (SD)

POOL ELEVATION: 1420.43 ft-msl

24 HOUR CHANGE: -0.25'

INFLOW(cfs): 58,000

RELEASE(cfs): 68,000

Fort Randall Dam (SD)

POOL ELEVATION: 1355.45 ft-msl

24 HOUR CHANGE: 0.33

INFLOW(cfs): 74,000

RELEASE(cfs): 59,000

Gavin's Point Dam (NE-SD)

POOL ELEVATION: 1206.5 ft-msl

24 HOUR CHANGE: 0.3

INFLOW(cfs): 61,000

RELEASE(cfs): 60,000

Kimberly S. Thomas
Chief, Readiness Branch

U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

-----Original Message-----

From: CENWO-EOC NWO

Sent: Tuesday, May 24, 2011 9:40 PM

To: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO

Subject: FW: Flood Update #69 (UNCLASSIFIED)

From: [REDACTED] NWO

Sent: Tuesday, May 24, 2011 9:39:54 PM

To: DLL-CENWO-EOC CMT-ALL

Cc: CENWD-EOC NWD; [REDACTED] NWO; [REDACTED] HQ02; Blechinger, Erik T
NWO; [REDACTED] ULA@NWO; [REDACTED] HQ02@NWO

Subject: Flood Update #69 (UNCLASSIFIED) Auto forwarded by a Rule

Classification: UNCLASSIFIED

Caveats: FOUO

****EMERGENCY OPERATIONS****

Information Cutoff: 1600 24 May 2011

1. Situation:

Repeated rounds of heavy rain, coupled with record plains snowpack have pushed the Missouri River Reservoirs to very high levels that requires aggressive and large releases.

A District CMT brief was held today and will continue daily. A CODEL call was held with all congressional stakeholders as well as State stakeholders. Most folks understand the situation and are concerned yet realize the need to evacuate the reservoirs and mitigate risks.

Omaha District received a request for Emergency Operations Technical and Direct Assistance for the City of Bismarck and Mandan. Technical and contracting teams are on the ground assessing the situation and preparing for path forward.

COL Ruch had numerous calls today with VIPs(Governor Daugaard(SD), Governor Dalrymple(ND), Senator Conrad(ND), and Senator Hoeven(ND)) to discuss record Missouri River releases.

Garrison Dam releases were increased to 70k cfs this afternoon. Scheduled to be increase to 75k cfs on Wednesday. Releases are scheduled to be increased to 80k cfs on Friday, 27 May and 85k cfs on Monday, 30 May.

Oaha Dam releases were increased to 64k cfs today. Releases are scheduled to be increased to 70k cfs on Wednesday, 75k cfs on Thursday, and 85k cfs on Sunday/Monday. Higher releases at Big Bend are continuing to help reduce the backwater affect in Pierre, SD.

[REDACTED], Omaha District Tribal Liaison, deployed today to assist the Crow Nation tribes and other tribes in Montana.

██████████, Omaha District Levee Safety PM, contacted all the NWO District PL 84-99 non-federal and federal levee sponsors in the State of Montana for a status of the levees. All sponsors are reporting high flows due to the recent heavy precipitation and no assistance is required at this time. All sponsors will continue to monitor the situation and will notify NWO of any changes.

Deploying 5 individuals for 24 hour surveillance on the Williston, ND levee. The levee is owned, operated, and maintained by USACE. This effort is funded from Operations not FCCE.

2. Weather:

2a. Past Precipitation:

Rain fell again over the western two thirds of Montana with some areas receiving 2.0-2.5" in the Upper Missouri River above Fort Peck. From 0.25-0.75" was received over the Milk, Upper Missouri and Yellowstone basins. The Black Hills received up to 2.0" over the past 24 hours as did northeastern Colorado, northwestern Kansas, and southwestern Nebraska. Lesser amounts fell in a west to east band through central Nebraska.

2b. Future Precipitation:

The day 1 QPF (700 hours Tuesday to 700 hours Wednesday) A 3.0" center from extreme northeastern Colorado, extending through a good portion of the sandhills and across central Nebraska. Most all of Nebraska is forecast to receive at least 1.25". A band of 0.75"-1.50" of precipitation across portions of Montana is forecast. Generally light rainfall of up to 0.25" across Wyoming.

The day 2 QPF (700 hours Tuesday to 700 hours Wednesday) A band of 0.10" to 0.25" over Montana and Wyoming. Amounts up to 1" falling on Northeastern Colorado and Nebraska.

The day 3 QPF (from 700 hours Wednesday to 700 hours Thursday) Light rain falling on most of the district, with heavier areas of 0.4-0.5".

3. Hydro Status:

3a. River (Flood Stage/Current Stage/Forecast/Date of Peak: Peak Stage)

Montana

* Little Bighorn River near Hardin/8.0/9.95/11.3 (25 May)/23 May: 12.32

* Tongue River at Miles City/11.0/7.8/receding/21 May: 14.1

* Yellowstone River at Miles City/13.0/14.6/14.4 (24 May)/Peaking today

* Yellowstone River at Glendive/53.5/55.94/receding/23 May: 56.38

* Yellowstone River near Sidney/19.0/21.51/21.53 (24 May)/Peaking Today

NOTE: For the Yellowstone river at Miles City and Sidney, it is likely that the river will peak higher than the forecasted stage.

North Dakota

* James River at Jamestown/12.0/11.7 (1860 cfs)/steady

* James River at LaMoure/14.0/11.3'/slow decline

* Little Missouri River at Medora/15.0/19.6/19.9:May 24/Peaking today

South Dakota

* Cheyenne River near Plainview/16.0/16.93/18.9/26 May

* White River near White River/14.0/8.8/receding/22 May : 12.5

Nebraska

* North Platte River at North Platte/6.0/7.34/7.7/27 May

* North Platte River at State Line/5.5/5.8/steady

* Missouri River at NE City/18.0 /21.06/22.8/28 May

* Missouri River at Brownville/33.0/36.65/39.9/28 May

* Missouri River at Rulo/17.0/19.85/23.9/28 May

3.b Reservoirs:

Pipestem Reservoir (ND) rose 0.02' Monday to elevation 1486.80 ft-msl. Yesterday's daily inflows were 205 cfs. 70.6% of the flood pool is occupied.

Jamestown Reservoir (ND) fell 0.15' yesterday to elevation 1449.03 ft msl. Yesterday's daily inflows were 837 cfs. 67.8% of the flood pool is occupied.

Bowman Haley fell 0.17 ft to elevation 2757.97 ft msl with inflows of 1,627 cfs and releases of 934 cfs. 8.4% of the flood control pool is occupied.

Heart Butte rose 1.9 feet yesterday and has 9.1% of its flood control pool occupied, Pactola is at 2.9% (rose 0.46'), and Shadehill is at 4.3% (rose 0.75 feet).

Yellowtail rose 3.0 ft yesterday to elevation 3616.39 ft-msl with inflows dropping from 15,900 cfs on Sunday to 13,378 on Monday. The release was 3,721 cfs. 75.1% of its multipurpose pool is occupied.

POOL ELEV.	INFLOW	RELEASE
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RELEASE(cfs): 56,200

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INFLOW(cfs): 58,000

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POOL ELEVATION: 1355.45 ft-msl

24 HOUR CHANGE: 0.33

INFLOW(cfs): 74,000

RELEASE(cfs): 57,800

Gavin's Point Dam (NE-SD)

POOL ELEVATION: 1206.5 ft-msl

24 HOUR CHANGE: 0.3

INFLOW(cfs): 61,000

RELEASE(cfs): 58,400

The daily reservoir bulletin and pertinent data for the mainstem dams are attached.

4.a Emergency Operations:

4.a.1 Nebraska:

NWO personnel, [REDACTED] and [REDACTED] are in North Platte continuing to provide technical assistance to the City to prepare for the increased releases. Current probable forecasted releases are 5500 cfs. Probable releases are going up, we will have new probable forecasts by the end of the week. NWO personnel, Don Moses and Nicole Stubbs returned to the District Office today.

NWO personnel, [REDACTED] and [REDACTED] are deployed providing assistance in communities upstream of Lewellen, NE, which includes Henry, Morrill, Mitchell, Scottsbluff, Terrytown, Gering, Minatare, McGrew, and Lisco. The team has completed their assistance mission and are currently redeploying to Pierre, SD to assist.

4.a.2 Montana - See above.

4.a.3 North Dakota - Working consequences of high releases from Garrison Dam in the Bismarck and Mandan areas. Technical team arrived in Bismarck this morning. They have been supporting the local efforts and providing assistance as needed. Per the request of the Governor, the Omaha District is deploying all resources needed to assist the City of Bismarck and Mandan. Two additional technical teams, a contracting team, and 2 construction representatives are deploying to Bismarck tonight. If needed, the Omaha District will be ready to award an emergency contract for temporary measures. Inundation mapping for Bismarck at 85,000 cfs has been completed.

4.a.4 South Dakota - Working consequences of high releases from Oahe Dam in the Pierre area. Technical team is on the ground and working with the State and locals. An additional team is enroute to Pierre tonight to assist. Pierre inundation mapping for 85,000 cfs will be complete tomorrow morning.

4.a.5 Support to Others

Alabama Tornadoes: Tim Gouger is currently deployed as the Debris SME to St. Louis. James Muilenburg is deployed to SAM as an LGL

MVD solicited Omaha District to provide Debris Recovery Services for the historic and catastrophic tornado damage in Joplin, MO through use of the SDIC contract vehicle. Contract Status: Concurrence within Omaha District and from Kansas City District, NWD, MVD, and HQ has been provided. Working with Contracting to devise the most timely award strategy possible even though we cannot submit a RFP until Mission Tasking is issued to USACE from FEMA. Jim Garner will advise us as to when we can expect it. Actions Items for tomorrow: EM to receive \$3M from Kansas City District tomorrow. Track FEMA IMAAT teams for date to issue Mission Tasker for debris recovery services. Coordinate with contracting for most timely and defensible award strategy. Develop RFP in preparation for Mission Tasking. Maintain coordination with FEMA, and USACE reps located in the NWD Debris PRT, RRCC, NRD, MVD, and Omaha District concerning debris planning and execution strategies and resources.

4.b Funding:

- * Total Code 200 Funding received to date for this event: \$2,206,425
- * Total Code 200 Funding revoked to date for this event: \$2,600,000
- * Class 219 - Emergency Operations - Direct Assistance - \$250,000 - WAD and FAD received 3/14/2011
- * Class 219 - Emergency Operations - Direct Assistance - \$3.825M - WAD received 03/15/11. FAD received 03/16/11.
- * Class 219 - Additional Funds Request on 24 March - \$231,425 - WAD and FAD received 03/24/11.
- * Class 219 - Emergency Operations - Direct Assistance - \$2.5M revoked - 4/13/11

* Class 219 - Emergency Operations - Direct Assistance - \$100k revoked - 4/22/11
* Class 210 - Response Operations - Alabama Tornadoes - \$56k - MIPR - 4/30/11
* Class 210 - Response Operations - Alabama Tornadoes - \$25k - Request and received for EOC Operations and deployments on 4/30/11
* Class 200 - Emergency Operations - Response Operations - \$500,000 - Request sent 24 May 2011

4.c Number of Personnel Supporting EOC Operations: 30

4.d EOC Activation - Level III - Partial Activation(Hours: 0700 to 1700)

****ADVANCE MEASURES****

1. Situation:

Currently monitoring high mountain snow water equivalents in WY and MT.

2. Advance Measures:

2.a.2 WYOMING - Awaiting NWD Decision on Elk Mountain, WY PIR. NWD provided comments to NWO on 23 May 2011. NWO has responded to those comments.

2.b Funding:

* Total Code 500 Funding received to date: \$787,904
* Class 520 Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/2/11.
* Class 52A Additional Request for Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/10/11.
* Class 520 Additional Request for Funding - Advance Measures - Technical assistance - \$101,640. WAD and FAD received on 3/24/11.
* Class 519 Funding - Advance Measures - Direct Assistance - \$376,264. WAD and FAD received on 3/28/11.
* Class 520 Funding - Advance Measures - Technical assistance - \$110k - FAD received on 05/12/11.

2.c Number of Personnel Supporting Advance Measures EOC Operations: 10

3.c EOC Activation - Level III - Partial Activation(Hours: 0700 to 1700)

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED
Caveats: FOUO

NWO

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 9:40 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; [REDACTED] NWO; [REDACTED] HQ02; Blechinger, Erik
T NWO; [REDACTED] ULA@NWO; [REDACTED] HQ02@NWO
Subject: Flood Update #69 (UNCLASSIFIED)
Attachments: DailyBulletin5.24.pdf; Day1QPF_24May.gif; Day2QPF_24May.gif; Day3QPF_24May.gif;
MainstemPertinentData_24May.xlsx; ObservedPrecip_24May.jpg; TempOutlook_
24May11.xlsx; State of ND_Burleigh County Corps Request May 24 2011.pdf

Classification: UNCLASSIFIED
Caveats: FOUO

****EMERGENCY OPERATIONS****

Information Cutoff: 1600 24 May 2011

1. Situation:

Repeated rounds of heavy rain, coupled with record plains snowpack have pushed the Missouri River Reservoirs to very high levels that requires aggressive and large releases.

A District CMT brief was held today and will continue daily. A CODEL call was held with all congressional stakeholders as well as State stakeholders. Most folks understand the situation and are concerned yet realize the need to evacuate the reservoirs and mitigate risks.

Omaha District received a request for Emergency Operations Technical and Direct Assistance for the City of Bismarck and Mandan. Technical and contracting teams are on the ground assessing the situation and preparing for path forward.

COL Ruch had numerous calls today with VIPs(Governor Daugaard(SD), Governor Dalrymple(ND), Senator Conrad(ND), and Senator Hoeven(ND)) to discuss record Missouri River releases.

Garrison Dam releases were increased to 70k cfs this afternoon. Scheduled to be increase to 75k cfs on Wednesday. Releases are scheduled to be increased to 80k cfs on Friday, 27 May and 85k cfs on Monday, 30 May.

Oaha Dam releases were increased to 64k cfs today. Releases are scheduled to be increased to 70k cfs on Wednesday, 75k cfs on Thursday, and 85k cfs on Sunday/Monday. Higher releases at Big Bend are continuing to help reduce the backwater affect in Pierre, SD.

[REDACTED], Omaha District Tribal Liaison, deployed today to assist the Crow Nation tribes and other tribes in Montana.

[REDACTED], Omaha District Levee Safety PM, contacted all the NWO District PL 84-99 non-federal and federal levee sponsors in the State of Montana for a status of the levees. All sponsors are reporting high flows due to the recent heavy precipitation and no assistance is required at this time. All sponsors will continue to monitor the situation and will notify NWO of any changes.

Deploying 5 individuals for 24 hour surveillance on the Williston, ND levee. The levee is owned, operated, and maintained by USACE. This effort is funded from Operations not FCCE.

2. Weather:

2a. Past Precipitation:

Rain fell again over the western two thirds of Montana with some areas receiving 2.0-2.5" in the Upper Missouri River above Fort Peck. From 0.25-0.75" was received over the Milk, Upper Missouri and Yellowstone basins. The Black Hills received up to 2.0" over the past 24 hours as did northeastern Colorado, northwestern Kansas, and southwestern Nebraska. Lesser amounts fell in a west to east band through central Nebraska.

2b. Future Precipitation:

The day 1 QPF (700 hours Tuesday to 700 hours Wednesday) A 3.0" center from extreme northeastern Colorado, extending through a good portion of the sandhills and across central Nebraska. Most all of Nebraska is forecast to receive at least 1.25". A band of 0.75"-1.50" of precipitation across portions of Montana is forecast. Generally light rainfall of up to 0.25" across Wyoming.

The day 2 QPF (700 hours Tuesday to 700 hours Wednesday) A band of 0.10" to 0.25" over Montana and Wyoming. Amounts up to 1" falling on Northeastern Colorado and Nebraska.

The day 3 QPF (from 700 hours Wednesday to 700 hours Thursday) Light rain falling on most of the district, with heavier areas of 0.4-0.5".

3. Hydro Status:

3a. River (Flood Stage/Current Stage/Forecast/Date of Peak: Peak Stage)

Montana

- * Little Bighorn River near Hardin/8.0/9.95/11.3 (25 May)/23 May: 12.32
- * Tongue River at Miles City/11.0/7.8/receding/21 May: 14.1
- * Yellowstone River at Miles City/13.0/14.6/14.4 (24 May)/Peaking today
- * Yellowstone River at Glendive/53.5/55.94/receding/23 May: 56.38
- * Yellowstone River near Sidney/19.0/21.51/21.53 (24 May)/Peaking Today

NOTE: For the Yellowstone river at Miles City and Sidney, it is likely that the river will peak higher than the forecasted stage.

North Dakota

- * James River at Jamestown/12.0/11.7 (1860 cfs)/steady
- * James River at LaMoure/14.0/11.3'/slow decline
- * Little Missouri River at Medora/15.0/19.6/19.9:May 24/Peaking today

South Dakota

- * Cheyenne River near Plainview/16.0/16.93/18.9/26 May
- * White River near White River/14.0/8.8/receding/22 May : 12.5

Nebraska

- * North Platte River at North Platte/6.0/7.34/7.7/27 May
- * North Platte River at State Line/5.5/5.8/steady
- * Missouri River at NE City/18.0 /21.06/22.8/28 May
- * Missouri River at Brownville/33.0/36.65/39.9/28 May
- * Missouri River at Rulo/17.0/19.85/23.9/28 May

3.b Reservoirs:

Pipestem Reservoir (ND) rose 0.02' Monday to elevation 1486.80 ft-msl. Yesterday's daily inflows were 205 cfs. 70.6% of the flood pool is occupied.

Jamestown Reservoir (ND) fell 0.15' yesterday to elevation 1449.03 ft msl. Yesterday's daily inflows were 837 cfs. 67.8% of the flood pool is occupied.

Bowman Haley fell 0.17 ft to elevation 2757.97 ft msl with inflows of 1,627 cfs and releases of 934 cfs. 8.4% of the flood control pool is occupied.

Heart Butte rose 1.9 feet yesterday and has 9.1% of its flood control pool occupied, Pactola is at 2.9% (rose 0.46'), and Shadehill is at 4.3% (rose 0.75 feet).

Yellowtail rose 3.0 ft yesterday to elevation 3616.39 ft-msl with inflows dropping from 15,900 cfs on Sunday to 13,378 on Monday. The release was 3,721 cfs. 75.1% of its multipurpose pool is occupied.

POOL ELEV.	INFLOW	RELEASE
------------	--------	---------

Fort Peck Dam (MT)

POOL ELEVATION: 2244.68 ft-msl

24 HR CHANGE: 0.57'

INFLOW(cfs): 88,000

RELEASE(cfs): 75,500

Garrison Dam (ND)

POOL ELEVATION: 1850.40 ft-msl

24 HR CHANGE: 0.27'

INFLOW(cfs): 113,000

RELEASE(cfs): 56,700

Oahe Dam (SD)

POOL ELEVATION: 1617.62 ft-msl

24 HOUR CHANGE: 0.2'

INFLOW(cfs): 94,000

RELEASE(cfs): 56,200

Big Bend Dam (SD)

POOL ELEVATION: 1420.43 ft-msl

24 HOUR CHANGE: -0.25'

INFLOW(cfs): 58,000

RELEASE(cfs): 59,200

Fort Randall Dam (SD)

POOL ELEVATION: 1355.45 ft-msl

24 HOUR CHANGE: 0.33

INFLOW(cfs): 74,000

RELEASE(cfs): 57,800

Gavin's Point Dam (NE-SD)

POOL ELEVATION: 1206.5 ft-msl

24 HOUR CHANGE: 0.3

INFLOW(cfs): 61,000

RELEASE(cfs): 58,400

The daily reservoir bulletin and pertinent data for the mainstem dams are attached.

4.a Emergency Operations:

4.a.1 Nebraska:

NWO personnel, [REDACTED] and [REDACTED] are in North Platte continuing to provide technical assistance to the City to prepare for the increased releases. Current probable forecasted releases are 5500 cfs. Probable releases are going up, we will have new probable forecasts by the end of the week. NWO personnel, Don Moses and Nicole Stubbs returned to the District Office today.

NWO personnel, [REDACTED] and [REDACTED] are deployed providing assistance in communities upstream of Lewellen, NE, which includes Henry, Morrill, Mitchell, Scottsbluff, Terrytown, Gering, Minatare, McGrew, and Lisco. The team has completed their assistance mission and are currently redeploying to Pierre, SD to assist.

4.a.2 Montana - See above.

4.a.3 North Dakota - Working consequences of high releases from Garrison Dam in the Bismarck and Mandan areas. Technical team arrived in Bismarck this morning. They have been supporting the local efforts and providing assistance as needed. Per the request of the Governor, the Omaha District is deploying all resources needed to assist the City of Bismarck and Mandan. Two additional technical teams, a contracting team, and 2 construction representatives are deploying to Bismarck tonight. If needed, the Omaha District will be ready to award an emergency contract for temporary measures. Inundation mapping for Bismarck at 85,000 cfs has been completed.

4.a.4 South Dakota - Working consequences of high releases from Oahe Dam in the Pierre area. Technical team is on the ground and working with the State and locals. An additional team is enroute to Pierre tonight to assist. Pierre inundation mapping for 85,000 cfs will be complete tomorrow morning.

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[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102

[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED

Caveats: FOUO



US Army Corps
of Engineers
Omaha District

U.S. Army Corps of Engineers, Omaha District

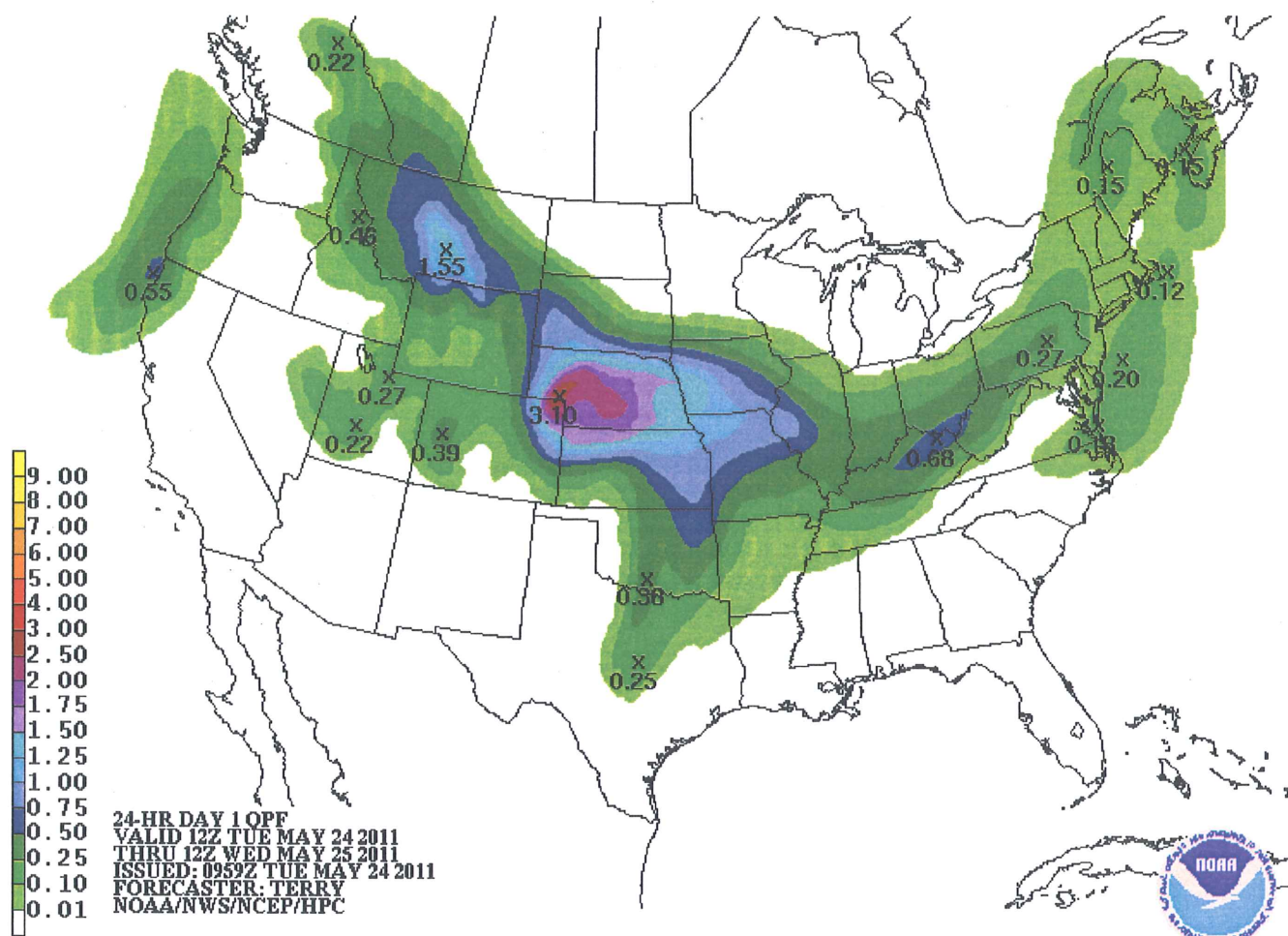
Missouri River Basin

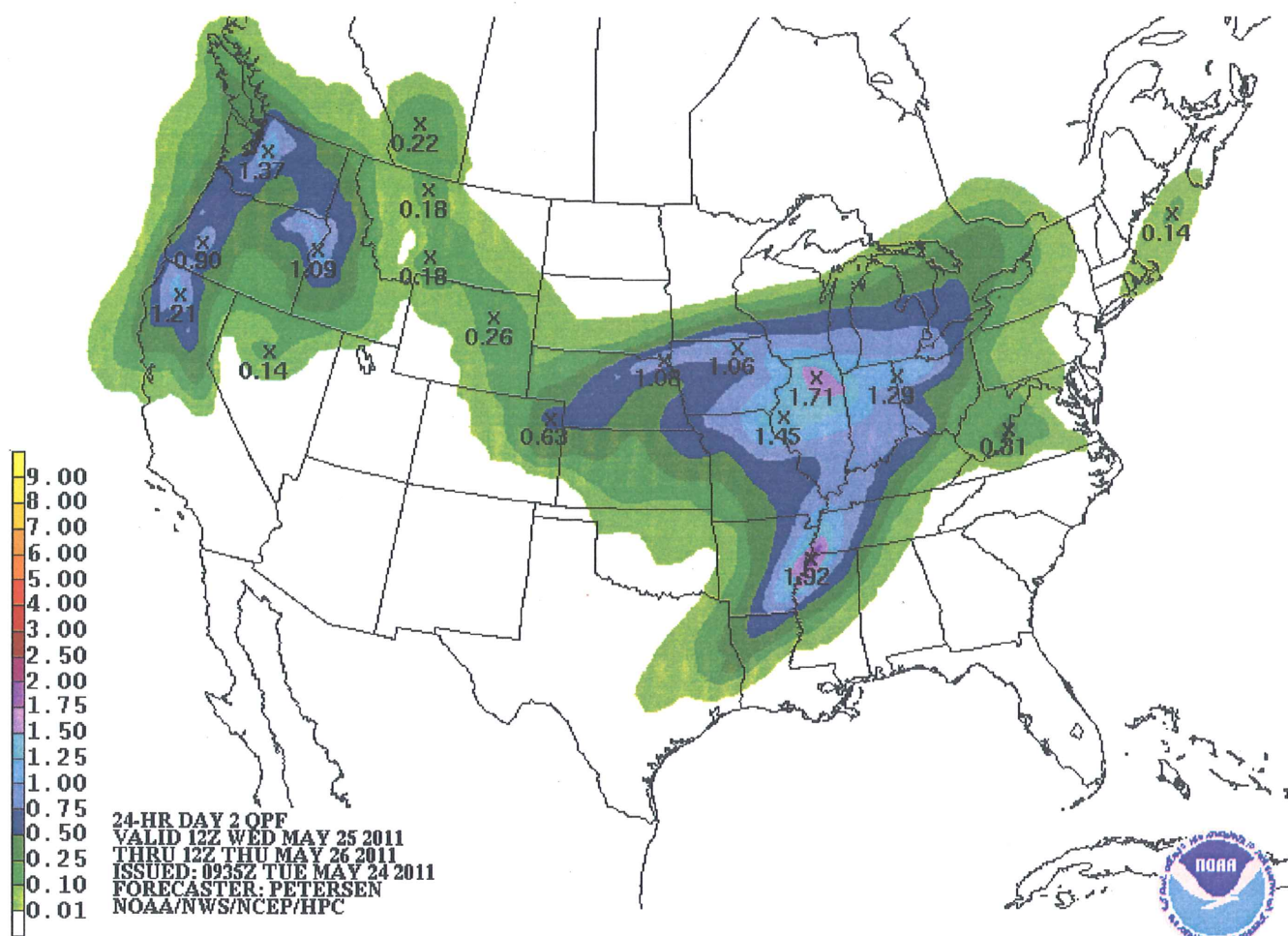
Mainstem and Tributary Reservoir Bulletin

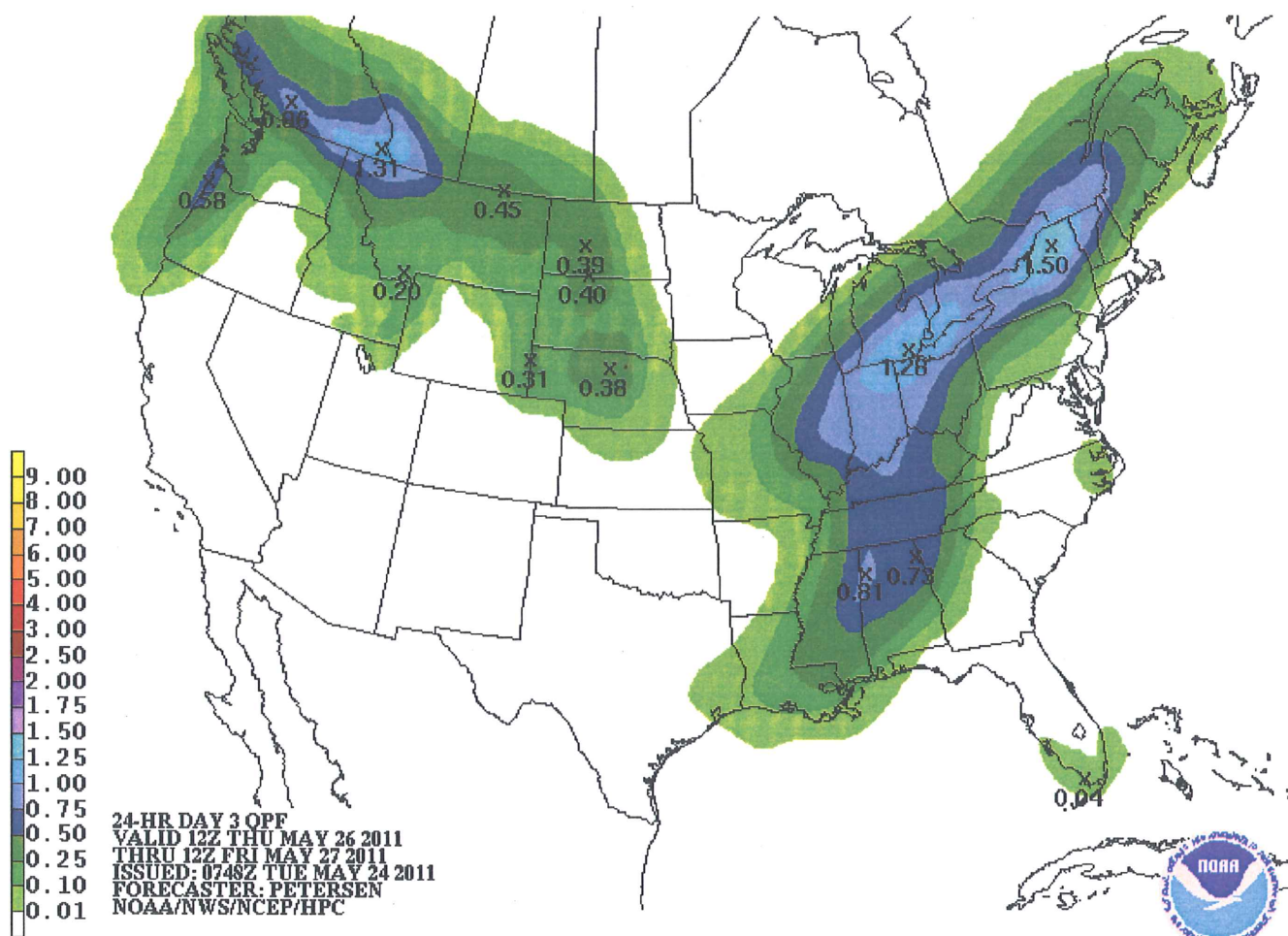
Project Data Date/Time: 05/24/11 12:00 AM

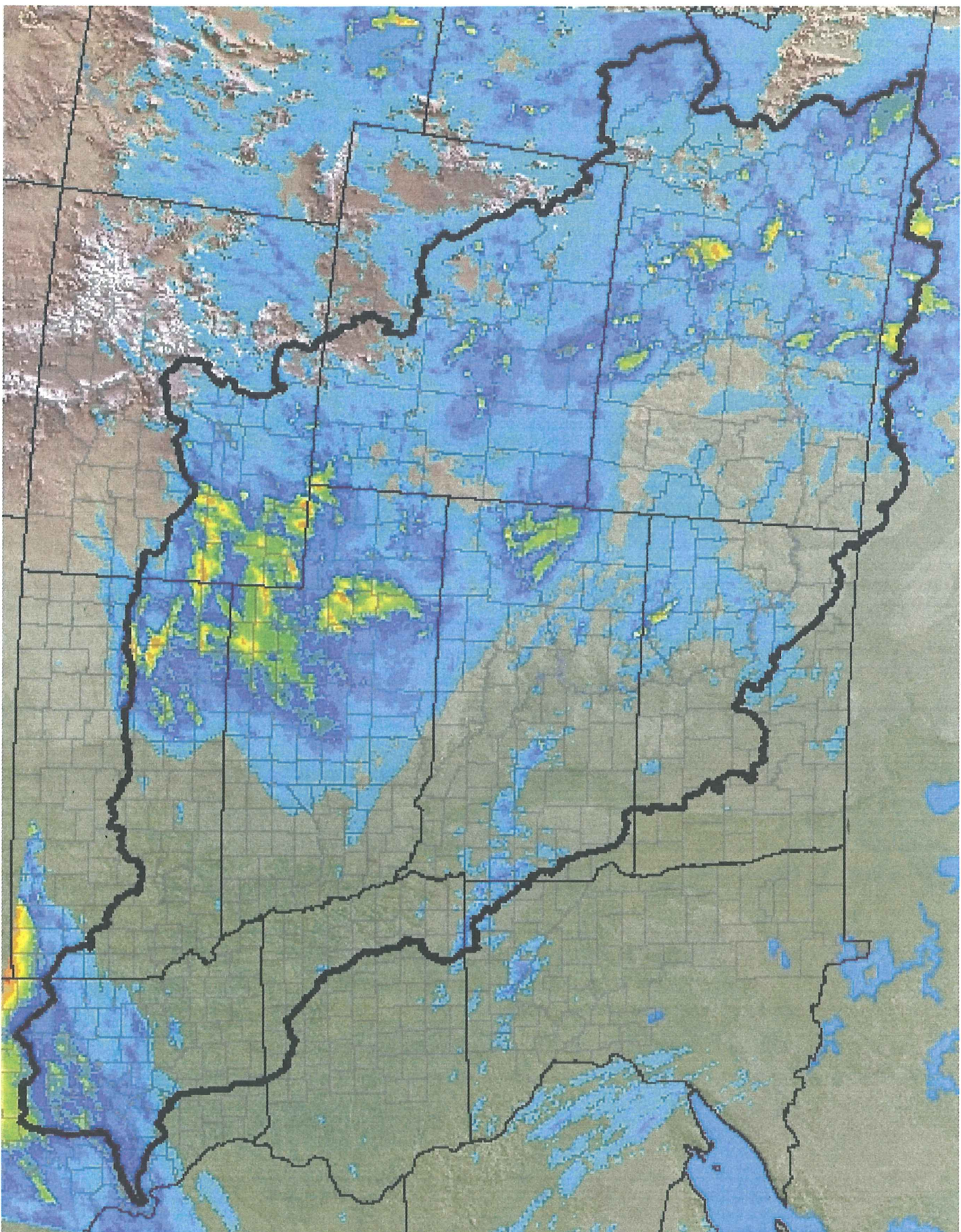
Bulletin Updated: 5/24/11 10:15 AM

Project	Project Information				Current Data					Occupied Storage		
	Elevations (ft msl)		Storage		Elevation (ft msl)	Dly Elev. Change	Storage (ac-ft)	Inflow (dsf)	Release (dsf)	MP (%)	FC (ac-ft)	FC (%)
	MP	FC	MP	FC								
MRR - Missouri River Mainstem Projects												
*Please note Mainstem and USBR data is calculated manually and will populate before 12:00 p.m.												
Fort Peck	2234.0	2250.0	14,995,684	18,687,731	2244.68	0.57	17,181,000	88,000	17,500	100.0	2,185,316	59.2
Garrison	1837.5	1854.0	18,109,625	23,820,730	1850.40	0.27	22,479,000	113,000	56,700	100.0	4,369,375	76.5
Oahe	1607.5	1620.0	18,834,035	23,136,960	1617.62	0.20	22,246,000	94,000	56,200	100.0	3,411,965	79.3
Big Bend	1420.0	1423.0	1,621,484	1,798,614	1420.43	-0.25	1,668,000	58,000	59,200	100.0	46,516	26.3
Fort Randall	1350.0	1375.0	3,124,368	5,418,186	1355.45	0.33	3,571,000	74,000	57,800	100.0	446,632	19.5
Gavins Point	1204.5	1210.0	320,971	469,928	1206.64	0.17	358,000	61,000	58,400	100.0	37,029	24.9
System Totals							67,503,000					
NWO - USBR Section 7 Projects												
Tiber	2993.0	3012.5	925,649	1,328,723	2985.96	0.32	806,049	3,383	991	87.1	0	0.0
Clark Canyon	5546.1	5560.4	174,367	253,442	5544.83	-0.02	167,802	398	450	96.2	0	0.0
Canyon Ferry	3797.0	3800.0	1,891,888	1,992,977	0.00	-3778.24	1,310,735	0	0	69.3	0	0.0
Boysen	4725.0	4732.2	741,594	892,226	4709.47	-0.16	485,222	2,113	3,356	65.4	0	0.0
Buffalo Bill	5393.5	5393.5	646,565	646,565	5346.43	0.08	316,396	3,877	3,639	48.9	-	-
Yellowtail	3640.0	3657.0	1,070,000	1,328,000	3616.39	3.0	803,785	13,541	3,721	75.1	0	0.0
Jamestown	1429.8	1454.0	31,510	221,000	1449.03	-0.15	159,902	837	1,593	100.0	128,392	67.8
Heart Butte	2064.4	2094.5	67,000	214,000	2068.33	1.9	80,378	4,930	1,479	100.0	13,378	9.1
Keyhole	4099.3	4111.5	194,000	334,000	4095.56	0.42	155,751	1,714	0	80.3	0	0.0
Pactola	4580.2	4621.5	56,000	99,000	4581.70	0.46	57,254	432	229	100.0	1,254	2.9
Shadehill	2271.9	2302.0	120,000	350,000	2273.90	0.75	129,939	3,216	1,228	100.0	9,939	4.3
Glendo	4635.0	4653.0	518,000	790,000	4630.30	0.30	462,277	7,605	5,754	89.2	0	0.0
NWO - USACE Tributary Projects												
Bowman-Haley	2754.8	2777.0	18,765	91,482	2757.97	-0.17	24,875	1,627	934	100.0	6,110	8.4
Pipestem	1442.5	1496.3	8,944	142,107	1486.80	0.02	103,018	277	205	100.0	94,074	70.6
Chatfield	5432.0	5500.0	27,428	234,207	5432.01	0.07	27,431	46	0	100.0	3	0.0
Cherry Creek	5550.0	5598.0	12,805	133,134	5550.12	-0.10	12,900	15	41	100.0	95	0.1
Bear Creek	5558.0	5635.5	1,882	30,586	5558.50	0.10	1,934	26	31	100.0	52	0.2
Papio #11	1121.0	1142.0	3,054	16,907	1121.47	-0.02	3,238	4	8	100.0	184	1.3
Papio #16	1104.0	1121.0	1,211	4,782	1104.61	-0.09	1,289	3	9	100.0	78	2.2
Papio #18	1110.0	1128.2	2,916	10,512	1092.50	-1.86	281	-65	0	9.6	0	0.0
Papio #20	1095.8	1113.1	2,536	8,611	1096.30	-0.06	2,655	2	8	100.0	119	2.0
Cottonwood	3875.0	3936.0	655	8,385	3856.52	0.00	0	0	0	0.0	0	0.0
Cold Brook	3585.0	3651.4	520	7,200	3582.54	0.01	433	0	0	83.3	0	0.0
Lake Audubon	1847.0	1847.0	323,690	323,690	1846.81	0	INFLOW AND OUTFLOW NOT CALCULATED					
Lake Pocasse	1617.0	1617.0	11,000	11,000	POOL ELEVATION READ MONTHLY BY PROJECT OFFICE							
Salt Creek #02	1335.0	1350.0	1,100	4,957	1333.86	0.01	924	1	0	84.0	0	0.0
Salt Creek #04	1307.4	1322.5	2,531	9,660	1307.19	0.05	2,465	8	0	97.4	0	0.0
Salt Creek #08	1287.8	1302.0	1,780	8,375	1289.02	0.40	2,123	86	29	100.0	343	5.2
Salt Creek #09	1271.1	1285.0	1,451	5,864	1271.49	-0.04	1,528	1	5	100.0	77	1.8
Salt Creek #10	1244.9	1262.0	1,629	7,468	1245.77	-0.04	1,818	8	12	100.0	189	3.2
Salt Creek #12	1232.9	1252.0	1,808	9,415	1233.93	-0.19	2,034	8	30	100.0	226	3.0
Salt Creek #13	1341.0	1355.0	2,161	7,182	1341.72	-0.28	2,335	-3	31	100.0	174	3.5
Salt Creek #14	1244.3	1263.5	7,500	27,597	1245.16	-0.16	8,133	-7	55	100.0	633	3.1
Salt Creek #17	1242.4	1266.0	783	6,628	1242.84	-0.11	862	-1	6	100.0	79	1.3
Salt Creek #18	1284.0	1311.0	25,088	96,759	1285.34	-0.10	27,619	49	147	100.0	2,531	3.5









0.01 0.05 0.10 0.25 0.50 0.75 1.00 1.50 2.00 2.50 3.00 4.00 5.00 6.00 8.00 +

MBRFC 24-Hour Gage Biased Estimated Rainfall (inches)

Ending: 5/24/2011 at 7:00AM CDT

Created 5/24/2011 at 10:32 AM CDT

OMAHA DISTRICT DAM INFO AND DAM SAFETY SURVEILLANCE POOL TRIGGERS(As Of: 24 May 2011 11:30)

General Information															Current Data					Occupied Storage			Dam Safety Triggers		
Project Symbol	Project	Record Pool	Design Dam Crest	Base of Exclusive	Design Spillway Elevation (crest/top gate)	Elevations (ft-msl)		Elevation (ft-msl)	Daily Elevation Change	Storage (ac-ft)	Inflow (DSF)	Release (DSF)	MP (%)	FC (ac-ft)	FC (%)	Weekly Surveillance	Daily Surveillance	24-HR Surveillance							
						Top of Multi-Purpose Pool/Conse rvation	Top of Flood Control Pool																		
FP	Fort Peck Dam	2252.0 (1975)	2280.5	2246.0	(2225/2250)	2234.0	2250.0	2244.68	0.57	17,181,000	88,000	17,500	100.0	2,185,316	59.2	2246.0	2250.0	2252.0							
GA	Garrison Dam	1854.8 (1975)	1875.0	1850.0	(1825/1854)	1837.5	1854.0	1850.40	0.27	22,479,000	113,000	56,700	100.0	4,369,375	76.5	1850.0	1854.0	1854.8							
OA	Oahe Dam	1618.7 (1995)	1660.0	1617.0	(1596.5/1620)	1607.5	1620.0	1617.62	0.20	22,246,000	94,000	56,200	100.0	3,411,965	79.3	1617.5	1618.7	1618.7							
BB	Big Bend Dam	1422.1 (1991)	1440.0	1422.0	(1385/1423)	1420.0	1423.0	1420.43	-0.25	1,668,000	58,000	59,200	100.0	46,516	26.3	1422.0	1422.0	1423.0							
FR	Fort Randall Dam	1372.2 (1997)	1395.0	1365.0	(1346/1375)	1350.0	1375.0	1355.45	0.33	3,571,000	74,000	57,800	100.0	446,632	19.5	1365.0	1370.0	1372.0							
GCP	Gavins Point Dam	1210.7 (1960)	1234.0	1206.0	(1180/1210)	1204.5	1210.0	1206.64	0.17	358,000	61,000	60,000	100.0	37,029	24.9	1210.0	1210.0	1210.7							

7 Day Temperature Forecasts (High/Low)

Location	Tues 24-May	Wed 25-May	Thu 26-May	Fri 27-May	Sat 28-May	Sun 29-May	Mon 30-May
Helena, MT	53/40	63/43	54/37	54/36	55/37	55/40	59/NF
Livingston, MT	57/40	65/43	60/35	59/32	61/35	58/34	57/NF
Billings, MT	60/47	64/47	64/44	62/42	62/45	61/46	59/NF
West Yellowstone, MT	49/34	56/34	47/26	47/29	47/28	49/34	52/NF
Yellowstone Park, WY	42/31	49/32	41/22	39/24	41/27	42/26	45/NF
Cody, WY	57/42	62/44	61/39	57/38	59/41	61/42	59/NF
Sheridan, WY	60/46	62/46	67/39	60/38	62/42	62/43	60/NF
Casper, WY	67/43	63/42	69/39	58/38	64/42	72/44	66/NF
Laramie, WY	60/40	60/40	60/30	50/30	55/35	60/35	60/NF



— State of —
North Dakota
Office of the Governor
Jack Dalrymple
Governor

May 24, 2011

Colonel Robert J. Ruch
Omaha District, U.S. Army Corps of Engineers
1616 Capital Ave, Suite 9000
Omaha, NE 68102-9000

Dear COL Ruch:

In response to spring flooding and contributing storm systems, I am requesting PL 84-99 Advance Measures – For Direct and Technical Assistance from the U.S. Army Corps of Engineers (USACE) - Omaha District for the City of Bismarck. Resources from Bismarck, Burleigh County and the State of North Dakota have been fully applied and exhausted for the types of direct federal assistance that USACE is able to provide under Public Law 84-99 (Class 510).

City officials have requested USACE direct assistance in designing and constructing temporary levees as well as other temporary flood protection devices. I ask for an expedited review of this request based upon forecasted releases from the Garrison Dam and the predicted inflows to Lake Sakakewea.

On Monday, May 23, 2011, releases from Garrison Dam were increased from 54,700 cubic feet per second (cfs) to 60,000 cfs. On Tuesday, morning May 24, releases will be increased to 65,000 cfs, on the afternoon of May 24 releases will be increased to 70,000 cfs and on Wednesday, the releases will be increased to 75,000 cfs. As officials with your office noted, this is a very unfortunate situation but due to inflows they are forced to increase releases from most Missouri River main-stem dams. The Bismarck/Mandan area should plan for a water elevation of as high as 17-feet or possibly higher and will experience the Wednesday releases by Friday, May 27. At 16-feet the flow rate at Bismarck/Mandan is forecast at 73,000 cfs and at 17-feet in the low 80,000 cfs range. With projected inflows of 200,000 cfs, these levels can be expected through June into early July with high levels forecast to continue in July and August. It depends on the snow pack melt rate and that once the river crests USACE will research storage. The current river level in Bismarck is 14.49 feet and flood stage is 16-feet. It is anticipated that the anticipated flooding could be greater than those experienced in 2009.

Colonel Robert J. Ruch

May, 24, 2011

Page 2

The city of Bismarck expressed an interest in obtaining Rapid Deployable Flood Wall from USACE and Hesco barriers from the N.D. Department of Emergency Services inventory.

Homeowners in the Bismarck/Mandan flood threatened areas are implementing flood protection measures and removing valuables from their homes as this letter is being written.

Threatened critical infrastructure in Bismarck includes public facilities and infrastructure such as roads, water treatment and waste water facilities and systems. City of Bismarck and Burleigh County commissions issued emergency flood declarations (see enclosures). The City of Bismarck and Burleigh County have been utilizing local sandbag caches and have ordered an additional 300,000 sandbags. A sandbag central has been established at the Missouri River fairgrounds in addition to sandbagging sites throughout the city and county.

In response to forecasted significant flooding, I issued a statewide flood emergency declaration on February 10, 2011. On May 5, 2011, I upgraded to a flood disaster declaration based on wide scale public infrastructure and personal property damages throughout the State of North Dakota. On May 6, 2011, I requested a Presidential Disaster Declaration, which was signed the evening of May 10, 2011. Our incident period, which began February 14, 2011, remains open; flooding continues in the Missouri River, Devils Lake and Souris (Mouse) River Basins.

The State of North Dakota, through its State Emergency Operations Plan (SEOP), has leveraged resources from such agencies as the N.D. National Guard (NDNG), N.D. State Water Commission (NDSWC), and the N.D. Department of Transportation (NDDOT). The State of North Dakota is also heavily engaged in purchasing, receiving and prepositioning flood fighting resources. Actions to provide advance protective measures are now being done by local, tribal and state agencies. Agencies assigned responsibility in the SEOP, and specifically the Flood Incident Annex, are providing planning, technical and coordination assistance.

The N.D. State Emergency Operations Center (SEOC) remains activated as staff coordinate support to the city of Bismarck and other flood threatened jurisdictions. The N.D. Department of Emergency Services (NDDES) has deployed a sandbag machine and 2800 linear feet of four-foot high Hesco Barriers (32 pallets) to protect roadways from flooding, maintain access for residents and protect property. Staff has been assisting city officials with procuring pumps and flood protection from private resources. The N.D. State Water Commission is providing technical assistance. N.D. National Guard is providing a sandbag machine and a liaison to provide technical assistance to the City of Bismarck EOC. Soldiers are prepared to assist with dike patrols, sandbag dike

Colonel Robert J. Ruch

May, 24, 2011

Page 3

construction, traffic control and haul other assets as necessary. The Civil Air Patrol provided aerial reconnaissance of flood-impacted area to assist emergency responders and planning.

I am specifically requesting the USACE –Omaha District provides direct and technical federal assistance under emergency operations.

Due to the urgent and compelling flood threat, I am requesting immediate USACE assistance to supplement state and local efforts and resources in emergency flood fight measures. Please consider swift action to grant this request for assistance. The state point of contact is Greg Wilz, Director, North Dakota Division of Homeland Security, at (701) 328-8100.

Sincerely,



Jack Dalrymple

Governor

State of North Dakota

37:68:71

Enclosures:

- City of Bismarck Request for Flood Emergency Assistance
- City of Bismarck Emergency Declaration
- Burleigh County, Emergency Declaration

cc:

- MG David Sprynczynatyk, Adjutant General, Director, Department of Emergency Services
- Greg Wilz, North Dakota Division of Homeland Security
- Kimberly Thomas, Emergency Manager, USACE, Omaha District
- Mark Koenig, Emergency Manager, USACE, St. Paul District



May 24, 2011

Governor Jack Dalrymple
600 E Boulevard Ave
Bismarck ND 58505-0100

Dear Governor Dalrymple:

The United States Army Corp of Engineers and the North Dakota State Water Commission have indicated that large releases of water from Lake Sakakewea/Garrison Reservoir are necessary and will cause a rise in the Missouri River level at Bismarck to above flood stage. The City of Bismarck will be experiencing a significant flooding situation based on current and future releases of water from Lake Sakakewea/Garrison Reservoir. The potential damage to public facilities and infrastructure and private property from flooding or groundwater inundation are great and beyond normal expectations. The City of Bismarck is taking necessary mitigation measures, preparedness actions, and other responses to protect public health and safety.

On behalf of the City Commission and citizens of Bismarck, I am formally requesting technical and direct assistance for flood response efforts from the United States Army Corp of Engineers. Anticipated requests may include resources for sand bag filling & deployment, sandbag and/or clay dike construction, storm water and wastewater pumping needs, security and traffic control. Formal requests will be sent to the ND Department of Emergency Services via WebEOC.

We truly appreciate your assistance with this matter.

Sincerely,

A black rectangular redaction box covers the signature of John Warford.

John Warford
Mayor

KH/kkb

**FLOOD EMERGENCY DECLARATION,
CITY OF BISMARCK, NORTH DAKOTA**

WHEREAS, The United States Army Corps of Engineers has reported today that Lake Sakakawea/Garrison Reservoir is near pool capacity and that flows into the reservoir necessitate extreme releases into the Missouri River starting immediately; and

WHEREAS, the Corps of Engineers and the North Dakota State Water Commission predict that the result of those large releases will be a rise in the Missouri River level at Bismarck to above flood stage; and

WHEREAS, the potential damage to public facilities and infrastructure and private property from flooding or ground water inundation are beyond normal expectations; and

WHEREAS, necessary mitigation measures, preparedness actions, and other responses must begin immediately to protect public health and safety.

NOW, THEREFORE, I John Warford, President of the Bismarck City Commission, pursuant to the authorities granted to me under Bismarck City Ordinance 2-08-03, do declare an emergency exists in Bismarck, North Dakota and authorize appropriate City staff to utilize all of the emergency powers listed in that section as are appropriate to meet this emergency. This Flood Emergency Declaration shall remain in effect for 7 days and may be extended for additional 7 day periods if necessary to meet the flood emergency.

Dated at Bismarck, North Dakota this 23rd day of May, 2011.

Attest:


Keith J Hunke
Asst. City Administrator


John Warford, President,
Bismarck City Commission

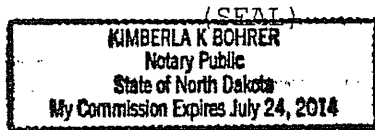
STATE OF NORTH DAKOTA)
)ss
COUNTY OF BURLEIGH)

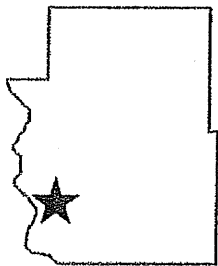
On this 23rd day of May, 2011, before me personally appeared John Warford and Keith J Hunke, known to me to be the persons who are described in, and who executed the within and foregoing

instrument and who severally acknowledged to me that they executed the same.

~~_____~~

Kimberla K. Bohrer
Notary Public, Burleigh County,
North Dakota.





Burleigh County

Emergency Management
2301 University Dr, Bldg 21
Bismarck, ND 58501
(701) 222-6727

SNOW AND FLOOD EMERGENCY DECLARATION, **BURLEIGH COUNTY, NORTH DAKOTA**

January 31, 2011

WHEREAS, Burleigh County, North Dakota has already received over one-half of the average winter season snowfall; and

WHEREAS, the latest winter outlook produced on January 27, 2011 by the National Weather Service, continues to forecast below-average temperatures and above-average precipitation with precipitation values running 200 percent to 800 percent which also makes the potential for spring flooding significant; and

WHEREAS, the Burleigh County Highway Department resources are committed to keeping emergency routes open and will continue their efforts to try to keep roads passable. Progress is impeded due to continued periods of snowfall, blowing snow and excessive winds; and

WHEREAS, the impact of heavy snows, extreme cold temperatures, high winds, and blizzard conditions through the winter season and succeeding thaw, runoff, and precipitation threaten the health, well-being, and safety of the citizens in Burleigh County; and

WHEREAS, a continued snow removal effort as well as flood preparedness and response activities may have a serious financial effect on the townships and cities involved and Burleigh County in general.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Burleigh County Commissioners declares an emergency exists in Burleigh County, North Dakota.

DATED at Bismarck, North Dakota this 31st day of January, 2011.



Brian Bitner, Chair
Burleigh County Commission

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Tuesday, May 24, 2011 8:49 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: Fw: Discharge measurement at Yellowstone River near Sidney

This is significant! The NWS and us were showing 170 kcfs for this stage.

[REDACTED]
[REDACTED]
MRBWM Res Reg Team Lead
[REDACTED] (Office)
[REDACTED] (BB)

Message sent via my BlackBerry Wireless Device

From: Wayne R Berkas <wrberkas@usgs.gov>
To: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02;
[REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02
Cc: Melvin K White <mwhite@usgs.gov>; John M Kilpatrick <jmkilpat@usgs.gov>;
Julie.Meyer@NOAA.gov <Julie.Meyer@NOAA.gov>; Gregg J Wiche <gjwiche@usgs.gov>; Steven M
Robinson <smrobins@usgs.gov>
Sent: Tue May 24 17:37:10 2011
Subject: Discharge measurement at Yellowstone River near Sidney

All,

Our team of Hydrologic Technicians made a discharge measurement on the Yellowstone River near Sidney today:

Date/Time	05-24-2011 @ 1650
GH	21.81
Discharge	110,900 cfs

Previous high flow measurements (1978) indicated a bend in the rating due to the river overflowing the banks. This measurement indicates a straight-line projection of the rating below 15 feet. The new rating will be available tomorrow.

I applied the new rating at 1745.

Wayne R. Berkas
Montana Data Section Chief
U.S. Geological Survey
3162 Bozeman Ave.
Helena, MT 59601
(406) 457-5903
wrberkas@usgs.gov

NWO

From: [REDACTED] NWD
Sent: Tuesday, May 24, 2011 8:26 PM
To: [REDACTED] HQ02@NWD; [REDACTED] HQ@NWD; [REDACTED] NWD;
[REDACTED] NWD; [REDACTED] ACE-IT Contractor; [REDACTED] NWD; [REDACTED]
[REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWW; [REDACTED] NWD; DLL-
CECC-NWD; [REDACTED] NWD; [REDACTED] HQ@NWD; [REDACTED]
NWD; [REDACTED] NWD; [REDACTED] NWD; Tipton, Robert A Col NWD;
[REDACTED] NWD; [REDACTED] NWD; [REDACTED] ULA; [REDACTED] L NWD;
[REDACTED] NWD; [REDACTED] HQ02; [REDACTED] NWD; [REDACTED]
NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; McNeil,
Rye A SSG CONTRACTOR @ NWD; [REDACTED] NWD; [REDACTED]
NWD; Oneill, Eleni I NWD; [REDACTED] NWD; [REDACTED] NWD; McMahon, John R
BG NWD; DLL-CENWD-PD; DLL-CENWD-RBM; DLL-CENWD-RBR; DLL-CENWD-RBT;
[REDACTED] NWD; [REDACTED] NWD; DLL-CESB-NWD; [REDACTED]
NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED]
NWD; [REDACTED] MAJ FEST@NWS; [REDACTED] NWD; [REDACTED]
NWD; [REDACTED] @NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED]
ULA@NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD;
[REDACTED] ULA@POD; [REDACTED] ULA@NWD; [REDACTED] ACE-IT
Contractor; [REDACTED] CELA@NWS; [REDACTED] NWD; [REDACTED] ACE-
IT@NWD; [REDACTED] ERDC-CHL-MS; [REDACTED] SFC NWS; [REDACTED]
[REDACTED] NWP; [REDACTED] NWD; Wetzel, Lindsey ; [REDACTED] NWD; [REDACTED]
NWD; [REDACTED] NWD; Farhat, Jody S NWD02; Blechinger, Erik T NWO
Cc: CENWS-EOC NWS; CENWW-EOC NWW; Cenwk-EOC NWK; CENWO-EOC NWO;
CENWP-EOC NWP; Acheson, William E LTC NWS; Capps, Stephan A LTC NWP; Evers,
Jason A MAJ NWK; Hains, Decker B LTC NWW; Jordano, James J LTC NWO
Subject: NWD EOC Activation to Level II (Emergency Watch) (UNCLASSIFIED)
Attachments: Missouri River Basin (MRB) Update--24 May 2011 (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

ALCON,

FYSA. The CG's note to MG Temple, USACE DCG, clearly articulates our current situation across the region (see attached). He changed his plans for the week and is presently in NWO's AOR where we received over 8" of rain and have over 100% snowpack still in the mountains. We currently have 5 District EOCs in various levels of activation and 3 significant efforts going on across the region (2 x flood fights - NWS/NWO and 1 x Joplin Tornado Response - NWK). Based on the increased activities across the region (flooding in both basins, tornado response, etc), NWD is increasing its activation level to II (See below for definitions). We have begun soliciting volunteers both within and outside NWD for assistance. If you receive any support requests within your community of practice or functional area, I request you work these through your EOC, not to be a hindrance to coordination, but for proper situational awareness and tracking.

Definitions of Activation Levels:

(1) Level I - Normal Operations. This level is for normal, day to day operations. The EOC is prepared for activation to a higher level.

(2) Level II - Emergency Watch. This level represents an augmentation to the normal Emergency Management staff, and/or extended hours of operation for the EOC. Level II

activations are typical of responses to watches and warnings, and other disaster activities that do not merit a higher level of activation.

(3) Level III - Partial Activation. This level represents partial activation of the EOC in response to a threat situation, ongoing operation, or intensive recovery activities. Level III activations typically have the EOC staffed for 10 or more hours per day, seven days per week.

(4) Level IV - Full Activation. This level represents full activation of the EOC in response to a threat situation or ongoing operation. The EOC is staffed on a 24-hour per day, seven-day per week basis.

Thanks
[REDACTED]

[REDACTED]
Chief, Readiness and Contingency Operations Northwestern Division
[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: McMahon, John R BG NWD
Sent: Tuesday, May 24, 2011 12:55 PM
To: Temple, Bo M MG HQ02
Cc: Grisoli, William T MG HQ02; [REDACTED] HQ02; [REDACTED] HQ02; Anderson, G Witt NWD; [REDACTED] NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; [REDACTED] NWD; Harrison, Theodore C BG HQ02; [REDACTED] HQ02; Farhat, Jody S NWD02; [REDACTED] HQ02
Subject: Missouri River Basin (MRB) Update--24 May 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir:

Our situation in the MRB is changing rapidly and for the worse. Consequently, my plans have changed and I will NOT be attending SAME in Dallas. I am headed to Omaha later today and will likely be circulating the AO through the weekend.

As described at yesterday's guidons call, we have 2 of the 3 upper basin reservoirs in their Exclusive Flood Control Zones--Fort Peck is NOT, followed by Garrison and Oahe which ARE. Given about 8" of rainfall in the Yellowstone basin over the last weekend, and with Snowpack at 108% Normal in the Ft Peck Watershed, and Snowpack at 132% Normal in the Garrison (included Yellowstone River) Watershed, we are anticipating record runoffs and releases all the way through the mainstem system in the coming days and weeks. The most critical impacts and dangers are with Garrison where just today we are NOW anticipating having to increase releases out of Garrison from 65Kcfs this AM to 70Kcfs this PM to 75Kcfs on Wed to 80Kcfs on Fri to 85Kcfs on Mon, ALL of which mean flood damages to Bismarck, ND, and possibly Mandan across the river--there is a 1.5 day travel time between Garrison and Bismarck). SEN Hoeven and I chatted this AM about this situation (he has a home on Fox Island in Bismarck)--he asked me to meet him in Bismarck on Fri which I intend to do. The other critical impact and danger is from increasing releases out of Oahe just above Pierre, SD which will go from 65Kcfs today to 70Kcfs Wed and beyond later in the week into next. We are OK at Big Bend where we can pass water through the hydropower plant up to 100Kcfs, have storage space at Fort Randall which is within its normal range of pool. Releases from Gavins Point(GP) will necessarily increase from 60Kcfs today and go up to the 80-85Kcfs range (record releases) in the next week or so--this have potential to cause issues downstream of GP into Missouri where farmers and others are always concerned--the reach of MR between Ft Randall and GP is already at flood stage, as is the some of the reaches below GP. COL Bob Ruch has an assessment team in Bismarck now working with the locals to devise a mitigation/floodfighting plan given the increases in releases from Garrison--we have been "inching" up our estimates of our expected releases over the past several days iaw 1-5 day QPFs from NWS which are notoriously unreliable. As of NOW, we are letting the Bismarck folks know our latest estimate (and targeted Floodfight) is for 85Kcfs out of Garrison--which could change again.....

Meanwhile, Tony Hofmann and the Kansas City Team are ramping up to respond to the Joplin, MO tornado damage--this is a 6 mile by 1 mile swath of damage and seems to be debris removal focused for now but is an evolving situation as FEMA does its damage estimates. More to follow on that.

Bob Tipton is here in Portland as are Witt Anderson and Jim Hearn. We continue to be concerned about snowmelt rates in the Columbia Basin as we speak and are on the ragged edge of record flows throughout the basin. More to follow with that as well.

Sorry I will miss you, Ted et al in Dallas. Continuing the mission.

VR, John

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Tuesday, May 24, 2011 6:32 PM
To: Farhat, Jody S NWD02
Subject: Re: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Sounds good - we'll talk in the morning.
Mike

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: Farhat, Jody S NWD02
To: [REDACTED] NWO; Quinn, Kevin R NWO; [REDACTED] NWO; [REDACTED] NWO
Cc: Oldham, Margaret NWO; Williamson, Eileen L NWO; [REDACTED] NWD02; [REDACTED]
NWD02
Sent: Tue May 24 16:25:39 2011
Subject: RE: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I think that's a good idea, but we should expand to include all projects for tomorrow and subsequent days. Perhaps one of my staff can change the format a bit tomorrow and make it more of a table that shows all 6 reservoirs?

Mike and Kevin - let's talk in the morning about who could best to that for us.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 6:21 PM
To: Quinn, Kevin R NWO; [REDACTED] NWO; Farhat, Jody S NWD02; [REDACTED] NWO
Cc: Oldham, Margaret NWO; Williamson, Eileen L NWO
Subject: RE: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I think we should go Missouri System wide with the info on this, thoughts?

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

-----Original Message-----

From: Quinn, Kevin R NWO

Sent: Tuesday, May 24, 2011 6:12 PM

To: 'Fong, Cecily S.'; [REDACTED] NWO; Farhat, Jody S NWD02; [REDACTED] NWO;
[REDACTED] NWO

Cc: Oldham, Margaret NWO; Williamson, Eileen L NWO

Subject: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Number 12

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: Quinn, Kevin R NWO
Sent: Tuesday, May 24, 2011 6:27 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
NWO
Cc: Oldham, Margaret NWO; Williamson, Eileen L NWO; [REDACTED] NWD02; [REDACTED]
[REDACTED] NWD02
Subject: RE: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

It is going out system wide....

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 6:26 PM
To: [REDACTED] NWO; Quinn, Kevin R NWO; [REDACTED] NWO; [REDACTED] NWO
Cc: Oldham, Margaret NWO; Williamson, Eileen L NWO; [REDACTED] NWD02; [REDACTED]
NWD02
Subject: RE: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I think that's a good idea, but we should expand to include all projects for tomorrow and subsequent days. Perhaps one of my staff can change the format a bit tomorrow and make it more of a table that shows all 6 reservoirs?

[REDACTED] and [REDACTED] - let's talk in the morning about who could best to that for us.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 6:21 PM
To: Quinn, Kevin R NWO; [REDACTED] NWO; Farhat, Jody S NWD02; [REDACTED] NWO
Cc: Oldham, Margaret NWO; Williamson, Eileen L NWO
Subject: RE: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I think we should go Missouri System wide with the info on this, thoughts?

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

-----Original Message-----

From: Quinn, Kevin R NWO

Sent: Tuesday, May 24, 2011 6:12 PM

To: 'Fong, Cecily S.'; [REDACTED] NWO; Farhat, Jody S NWD02; [REDACTED] NWO;
[REDACTED] NWO

Cc: Oldham, Margaret NWO; Williamson, Eileen L NWO

Subject: RIVERWATCH DAILY #12 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Number 12

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 6:23 PM
To: [REDACTED] NWO; Farhat, Jody S NWD02
Cc: [REDACTED] NWD02; [REDACTED] NWD02
Subject: RE: planned releases cheat sheet for Col Ruch (UNCLASSIFIED)
Attachments: MainstemPertinentData_24May.xlsx

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

Please have your folks mesh the document just sent with the one that I have attached. I think it is just adding a column for the release plans. Your folks started sending out the attached document today.

Thanks,
[REDACTED]

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 4:08 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02
Subject: planned releases cheat sheet for Col Ruch (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Jody,

Col Ruch requested a page outlining planned releases and elevations that he can reference to answer questions. We put the attached file together as an idea, feel free to use something else if it's easier.

We understand things are changing rapidly and our section can help update this as needed. Just want to make sure he has the latest info so we're all telling the same story.

Let me know how we can help you.

Thanks,
[REDACTED]
[REDACTED]
[REDACTED] cell

OMAHA DISTRICT DAM INFO AND DAM SAFETY SURVEILLANCE POOL TRIGGERS(As Of: 24 May 2011 11:30)

Project Symbol	Project	Record Pool	Design Dam Crest	Base of Exclusive	Design Spillway Elevation (crest/top gate)	Elevations (ft-msl)		Current Data					Occupied Storage			Dam Safety Triggers		
						Top of Multi-Purpose Pool/Conse- rvation	Top of Flood Control Pool	Elevation (ft-msl)	Daily Elevation Change	Storage (ac-ft)	Inflow (DSF)	Release (DSF)	MP (%)	FC (ac-ft)	FC (%)	Weekly Surveillance	Daily Surveillance	24-HR Surveillance
FP	Fort Peck Dam	2252.0 (1975)	2280.5	2246.0	(2225/2250)	2234.0	2250.0	2244.68	0.57	17,181,000	88,000	17,500	100.0	2,185,316	59.2	2246.0	2250.0	2252.0
GA	Garrison Dam	1854.8 (1975)	1875.0	1850.0	(1825/1854)	1837.5	1854.0	1850.40	0.27	22,479,000	113,000	56,700	100.0	4,369,375	76.5	1850.0	1854.0	1854.8
OA	Oahe Dam	1618.7 (1996)	1660.0	1617.0	(1596.5/1620)	1607.5	1620.0	1617.62	0.20	22,246,000	94,000	56,200	100.0	3,411,965	79.3	1617.5	1618.7	1618.7
BB	Big Bend Dam	1422.1 (1991)	1440.0	1422.0	(1385/1423)	1420.0	1423.0	1420.43	-0.25	1,668,000	58,000	59,200	100.0	46,516	26.3	1422.0	1422.0	1423.0
FR	Fort Randall Dam	1372.2 (1997)	1395.0	1365.0	(1346/1375)	1350.0	1375.0	1365.45	0.33	3,571,000	74,000	57,800	100.0	446,632	19.5	1365.0	1370.0	1372.0
GP	Gavins Point Dam	1210.7 (1960)	1234.0	1208.0	(1180/1210)	1204.5	1210.0	1206.64	0.17	356,000	61,000	60,000	100.0	37,029	24.9	1210.0	1210.0	1210.7

From: Chris Bjorke [Chris.Bjorke@bismarcktribune.com]
Sent: Tuesday, May 24, 2011 6:15 PM
To: Farhat, Jody S NWD02
Subject: RE: Garrison reservoir level (UNCLASSIFIED)

Thanks.

-----Original Message-----

From: Farhat, Jody S NWD02 [<mailto:Jody.S.Farhat@usace.army.mil>]
Sent: Tuesday, May 24, 2011 6:14 PM
To: Chris Bjorke
Subject: RE: Garrison reservoir level (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

1837.7

-----Original Message-----

From: Chris Bjorke [<mailto:Chris.Bjorke@bismarcktribune.com>]
Sent: Tuesday, May 24, 2011 6:09 PM
To: Farhat, Jody S NWD02
Subject: Garrison reservoir level

Can you repeat the reservoir level at the start of the run-off year? 1,838?

Thanks.

Chris

Christopher Bjorke
Business reporter
The Bismarck Tribune
701-250-8261

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Quinn, Kevin R NWO
Sent: Tuesday, May 24, 2011 4:59 PM
To: Farhat, Jody S NWD02
Subject: RE: Latest PR (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

How are you coming with call backs to reporters? Several of the ones who called earlier are calling to talk to you and demanding to talk to you before you go home. kq

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 3:58 PM
To: Quinn, Kevin R NWO; [REDACTED] NWD
Subject: Latest PR (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Clair - thanks for drafting this. It really is a help.

[REDACTED] - it's ready to do after your review. Please distribute widely, rather than to just the Dakotas as we've been doing with previous releases.

Thanks for your help

Jody

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWD
Sent: Tuesday, May 24, 2011 5:29 PM
To: [REDACTED] NWK; [REDACTED] NWD; [REDACTED] NWP; [REDACTED] NWW;
Farhat, Jody S NWD02; [REDACTED] NWO; [REDACTED] NWD02
Cc: [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD
Subject: FW: Oahe Dam SD Inundation Products (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Anyone know of Oahe inundation info in GIS format?

Request is from Homeland Security.

-----Original Message-----

From: Bausch, Douglas [mailto:Douglas.Bausch@dhs.gov]
Sent: Tuesday, May 24, 2011 3:20 PM
To: [REDACTED] NWO; [REDACTED] MVP; [REDACTED] MVP; [REDACTED] MVP
Cc: [REDACTED]; McNabb, Sean; [REDACTED] NWK; [REDACTED] NWO; [REDACTED]
[REDACTED] NWO; [REDACTED] NWD; [REDACTED] NWO; Hillenburg, Mike
Subject: Oahe Dam SD Inundation Products

All,

We are looking for any Oahe Dam inundation GIS products. We are hoping someone on this would know if anything is available?

Thanks, Doug

-----Original Message-----

From: Rozelle, Jesse [mailto:Jesse.Rozelle@dhs.gov]
Sent: Tuesday, March 29, 2011 8:44 AM
To: [REDACTED] NWO; [REDACTED] MVP; [REDACTED] MVP; [REDACTED] MVP
Cc: Bausch, Douglas; McNabb, Sean; [REDACTED] NWK; [REDACTED] NWO; [REDACTED]
[REDACTED] NWO; [REDACTED] NWD; [REDACTED] NWO
Subject: RE: USACE Advanced Measure Data - Omaha EM/GIS

Thanks Jon,

Eric, can you let me know if/when you have any levee or flood fighting related data available for the Omaha district? Let me know if you need anything from my end.

Are you receiving the Red River Remote Sensing updates from our coordination call? Would you like to be added to the distro list?

Thanks,
Jesse Rozelle
Risk Analyst/GIS Coordinator
FEMA Region VIII
Mitigation Division
Cell: (303)968-6712
jesse.rozelle@dhs.gov

-----Original Message-----

From: [REDACTED] NWO [mailto:[REDACTED]@usace.army.mil]
Sent: Monday, March 21, 2011 8:33 AM
To: [REDACTED] MVP; Rozelle, Jesse; [REDACTED] MVP; [REDACTED] MVP
Cc: Bausch, Douglas; McNabb, Sean; [REDACTED] NWK; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWD; [REDACTED] NWO
Subject: RE: USACE Advanced Measure Data - Omaha EM/GIS

Omaha GIS folks generally are not directly used by our EM office. They do provide support to our Hydro folks in support of flood fight efforts.

We have been asked to provide EM related information regionally with little success. We are hoping EM will coordinate with us prior to events in the future. Eric Morrison is our eGIS coordinator for Omaha.

[REDACTED], GISP
Chief of Surveys, Mapping and GIS Section U.S. Army Corps of Engineers, Omaha District

ATTN: CENWO-ED-GD(KRAGT)
1616 Capitol Ave, Ste 9000
Omaha, NE 68102-4926

[REDACTED] Voice
[REDACTED] Fax

-----Original Message-----

From: [REDACTED] MVP
Sent: Friday, March 18, 2011 3:42 PM
To: 'Rozelle, Jesse'; [REDACTED] MVP; [REDACTED] MVP
Cc: 'Bausch, Douglas'; 'McNabb, Sean'; [REDACTED] NWO; [REDACTED] NWK
Subject: RE: USACE Advanced Measure Data

Jon Kragt for Omaha and Patrick Kline temporarily for Kansas City District.
Not sure how involved they are in Emergency GIS data at either of those districts and they might forward you to others; they're who I know.

[REDACTED]
[REDACTED] Emergency Management Specialist
6W-21A Desk [REDACTED] Mobile [REDACTED]

teri.alberico@usace.army.mil

-----Original Message-----

From: Rozelle, Jesse [mailto:Jesse.Rozelle@dhs.gov]
Sent: Friday, March 18, 2011 3:01 PM
To: [REDACTED] MVP; Rozelle, Jesse; [REDACTED] MVP; [REDACTED] MVP
Cc: Bausch, Douglas; McNabb, Sean; [REDACTED] NWO; [REDACTED] NWK
Subject: RE: USACE Advanced Measure Data

Thanks [REDACTED],

Do you have a GIS contact in Omaha district?

-----Original Message-----

From: [REDACTED] MVP [mailto:[REDACTED]@usace.army.mil]
Sent: Friday, March 18, 2011 2:00 PM
To: Rozelle, Jesse; [REDACTED] MVP; [REDACTED] MVP
Cc: Bausch, Douglas; McNabb, Sean; [REDACTED] NWO; [REDACTED] NWK
Subject: RE: USACE Advanced Measure Data

No data available because we are not doing anything yet.

We have collected data on all of the levees we've built since 2009 but they are all removed. We will only release data once we're actually working in it.

Keith will determine what format we are able to share data in.

We only have the Wahpeton Sisseton reservation in the very ne corner of South Dakota; the rest is mostly Omaha or Kansas District

[REDACTED], Emergency Management Specialist
6W-21A Desk [REDACTED] Mobile [REDACTED]

teri.alberico@usace.army.mil

-----Original Message-----

From: Rozelle, Jesse [mailto:Jesse.Rozelle@dhs.gov]
Sent: Friday, March 18, 2011 2:32 PM
To: [REDACTED] MVP; [REDACTED] MVP; [REDACTED] MVP
Cc: Bausch, Douglas; McNabb, Sean
Subject: USACE Advanced Measure Data

Good Afternoon,

In 2009 and 2010, Keith supplied us with geodatabases of USACE advanced measures levee/sandbag data. Does USACE have this available yet that you can share? Any data you can provide with levee locations would greatly be appreciated.

Also, do you guys cover South Dakota as well? Or would that be another district?

Thanks,

Jesse Rozelle

FEMA Region 8

Classification: UNCLASSIFIED
Caveats: NONE

From: Wingert, Kevin M NWO
Sent: Tuesday, May 24, 2011 4:17 PM
To: Farhat, Jody S NWD02
Subject: Bismarck Tribune interview request (second call) (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

Just wanted to give you a head's up that we've received a second call from Chris Bjorke at the Bismarck Tribune. I believe Kevin Quinn forwarded his name earlier. I let Bjorke know that there would be a news release coming out soon on updated release levels. He would still like to speak with you.

His primary questions for you are as follows:

- What types of inflows are we seeing that are dictating our outflows? (In other words: What is stressing the system and why now?)
- What would be the normal storage capacity of Garrison be at this time of year?
- Had that capacity level been flexible prior to this event?

Bjorke's phone number is 701-223-2500. His email is chris.bjorke@bismarcktribune.com.

Very Respectfully,

Kevin Wingert
Public Affairs Specialist
U.S. Army Corps of Engineers Omaha District
Office: 402-995-2418
Cell: 402-779-1459
www.nwo.usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 4:08 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02
Subject: planned releases cheat sheet for Col Ruch (UNCLASSIFIED)
Attachments: MainstemUpdate.xlsx

Classification: UNCLASSIFIED

Caveats: NONE

Jody,

Col Ruch requested a page outlining planned releases and elevations that he can reference to answer questions. We put the attached file together as an idea, feel free to use something else if it's easier.

We understand things are changing rapidly and our section can help update this as needed. Just want to make sure he has the latest info so we're all telling the same story.

Let me know how we can help you.

Thanks,

[REDACTED]
[REDACTED]
[REDACTED] cell

Classification: UNCLASSIFIED

Caveats: NONE

MISSOURI MAINSTEM UPDATE

As of:

	MidnightE levation (ft msl)	Daily Elev. Change (ft)	Inflow (cfs)	Release (cfs)
Fort Peck	2244.68	0.57	88,000	17,500
Garrison	1850.40	0.25	113,000	65,000
Oahe	1617.62	0.20	94,000	65,000
Big Bend	1420.43	-0.25	58,000	59,200
Fort Randall	1355.45	0.33	74,000	57,800
Gavins Point	1206.64	0.17	61,000	58,400

7/1/2011 8:01

Planned Release Changes (cfs)
10K 5/24
70K 5/24 pm; 75K 5/25 am; 80K 5/26; 85K 5/30
70K 5/25; 75K 5/26; 85K 5/29

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Tuesday, May 24, 2011 3:13 PM
To: [REDACTED] NWD
Cc: Farhat, Jody S NWD02
Subject: Missouri River Mainstem Reservoir plan views (UNCLASSIFIED)
Attachments: Plate II-71.pdf; Plate II-4.pdf; Plate II-19.pdf; Plate II-33.pdf; Plate II-46.pdf; Plate II-58.pdf

Classification: UNCLASSIFIED

Caveats: NONE

Mr. [REDACTED]

Jody asked me to forward to you a link to our Missouri River Master Manual.

<http://www.nwd-mr.usace.army.mil/rcc/reports/mmanual/MasterManual.pdf>

You will find the plan views of our reservoirs near the end of the manual in the "Plates" section. The plan view plates are:

Plate II-4: Fort Peck Dam, pg 288 in the pdf Plate II-19: Garrison Dam, pg 303 in the pdf
Plate II-33: Oahe Dam, pg 317 in the pdf Plate II-46: Big Bend Dam, pg 330 of the pdf Plate
II-58: Fort Randall Dam, pg 342 of the pdf Plate II-71: Gavins Point Dam, pg 355 of the pdf

I have also attached the plates to this email in order for you to conveniently view them.

Please don't hesitate to ask for any additional information that you may need.

[REDACTED]
[REDACTED]
USACE, Northwestern Division
Missouri Basin Water Management Division

[REDACTED]
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: [REDACTED] NWD
Sent: Tuesday, May 24, 2011 1:00 PM
To: CENWD-EOC NWD; Cenwk-EOC NWK; CENWS-EOC NWS; CENWW-EOC NWW;
CENWO-EOC NWO; CENWW-EOC NWW; [REDACTED] NWD; Anderson, G Witt NWD;
[REDACTED] HQ@NWD; [REDACTED] ULA; [REDACTED] NWD; [REDACTED]
NWD; [REDACTED] NWD; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED]
[REDACTED] NWD; [REDACTED] NWD; [REDACTED] S NWD; [REDACTED] NWD; [REDACTED]
[REDACTED] NWD; [REDACTED] ULA@NWD; [REDACTED] NWD; [REDACTED] NWD;
[REDACTED] ACE-IT@NWD; [REDACTED] NWD; Tipton, Robert A Col NWD; [REDACTED]
[REDACTED] NWD; [REDACTED] NWD
Cc: Acheson, William E LTC NWS; Capps, Stephan A LTC NWP; [REDACTED] NWK;
Hains, Decker B LTC NWW; Jordano, James J LTC NWO
Subject: FW: Missouri River Basin (MRB) Update--24 May 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

ALL, FYSA. Situation in the Upper MO Basin getting worse.

-----Original Message-----

From: McMahon, John R BG NWD
Sent: Tuesday, May 24, 2011 10:55 AM
To: Temple, Bo M MG HQ02
Cc: Grisoli, William T MG HQ02; [REDACTED] HQ02; [REDACTED] HQ02;
Anderson, G Witt NWD; [REDACTED] NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO;
Hofmann, Anthony J COL NWK; [REDACTED] NWD; Harrison, Theodore C BG HQ02; [REDACTED]
HQ02; Farhat, Jody S NWD02; [REDACTED] HQ02
Subject: Missouri River Basin (MRB) Update--24 May 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir:

Our situation in the MRB is changing rapidly and for the worse. Consequently, my plans have changed and I will NOT be attending SAME in Dallas. I am headed to Omaha later today and will likely be circulating the AO through the weekend.

As described at yesterday's guidons call, we have 2 of the 3 upper basin reservoirs in their Exclusive Flood Control Zones--Fort Peck is NOT, followed by Garrison and Oahe which ARE. Given about 8" of rainfall in the Yellowstone basin over the last weekend, and with Snowpack at 108% Normal in the Ft Peck Watershed, and Snowpack at 132% Normal in the Garrison (included Yellowstone River) Watershed, we are anticipating record runoffs and releases all the way through the mainstem system in the coming days and weeks. The most critical impacts and dangers are with Garrison where just today we are NOW anticipating having to increase releases out of Garrison from 65Kcfs this AM to 70Kcfs this PM to 75Kcfs on Wed to 80Kcfs on Fri to 85Kcfs on Mon, ALL of which mean flood damages to Bismarck, ND, and possibly Mandan across the river--there is a 1.5 day travel time between Garrison and Bismarck). SEN Hoeven and I chatted this AM about this situation (he has a home on Fox Island in Bismarck)--he asked me to meet him in Bismarck on Fri which I intend to do. The other critical impact and danger is from increasing releases out of Oahe just above Pierre, SD which will go from 65Kcfs today to 70Kcfs Wed and beyond later in the week into next. We are OK at Big Bend where we can pass water through the hydropower plant up to 100Kcfs, have storage space at Fort Randall which is within its normal range of pool. Releases from Gavins Point(GP) will necessarily increase from 60Kcfs today and go up to the 80-85Kcfs range (record releases) in the next week or so--this have potential to cause issues downstream of GP into Missouri where farmers and others are always concerned--the reach of MR between Ft Randall and GP is already

at flood stage, as is the some of the reaches below GP. COL Bob Ruch has an assessment team in Bismarck now working with the locals to devise a mitigation/floodfighting plan given the increases in releases from Garrison--we have been "inching" up our estimates of our expected releases over the past several days iaw 1-5 day QPFs from NWS which are notoriously unreliable. As of NOW, we are letting the Bismarck folks know our latest estimate (and targeted Floodfight) is for 85Kcfs out of Garrison--which could change again.....

Meanwhile, Tony Hofmann and the Kansas City Team are ramping up to respond to the Joplin, MO tornado damage--this is a 6 mile by 1 mile swath of damage and seems to be debris removal focused for now but is an evolving situation as FEMA does its damage estimates. More to follow on that.

Bob Tipton is here in Portland as are Witt Anderson and Jim Hearn. We continue to be concerned about snowmelt rates in the Columbia Basin as we speak and are on the ragged edge of record flows throughout the basin. More to follow with that as well.

Sorry I will miss you, Ted et al in Dallas. Continuing the mission.

VR, John

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

From: Engemann, Daniel [Dan.Engemann@mail.house.gov]
Sent: Tuesday, May 24, 2011 10:32 AM
To: Farhat, Jody S NWD02
Cc: Marble, Gary
Subject: Gavins Point release concerns

Jody,

I heard from one of our farmers at Hermann this morning, who's very concerned with a potential 75,000 cfs release from Gavins Point, and with more rain projected. What is the forecasted stage at Hermann if you have to ramp up to this, and are there any reassurances I can give him? He's concerned that we could be shaping up for another '93 type event.

Thanks,

Dan Engemann

Office of Congressman Blaine Luetkemeyer (MO-09)

573-208-0507 cell

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Tuesday, May 24, 2011 9:43 AM
To: [REDACTED] NWD02
Cc: Farhat, Jody S NWD02
Subject: Deviation Letter (UNCLASSIFIED)
Attachments: WaverlyDevReq.pdf

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

Please prepare the NWK Waverly deviation letter for Jody's signature. File is in the Word 2011 directory. Attached is the request from NWK. They believe they sent the original up last week, but it has yet to be found.

[REDACTED]

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED]
[REDACTED] (fax)

Classification: UNCLASSIFIED
Caveats: NONE

MAY 10 2011

MEMORANDUM FOR Chief, Missouri River Basin Water Management Division
(CENWD-PDR)

SUBJECT: Deviation Request – Waverly Control Point, Missouri River

1. The Kansas City District requests a deviation from the Phase I control point flow for the Waverly gage on the Missouri River. The lakes in the Lower Kansas River basin (Milford, Tuttle Creek, Perry, and Clinton) are operated with consideration of numerous Kansas River control points, as well as Missouri River control points at Kansas City and Waverly. Historically, the Waverly control point has often been the determining gage when setting releases due to its relatively low flow criteria.
2. The Waverly gage control flows for Phase I/II/III flood control releases are 90K/130K/170K respectively. Due to the large volume of flood water currently stored within the mainstem projects and above normal mountain snowpack in the upper basin, the mainstem projects will be releasing approximately 30K cfs above normal navigation requirements. The full navigation target for the Kansas City gage, upstream of Waverly, is 41K cfs. Missouri River baseflow will likely exceed 70K cfs at the Waverly gage due to uncontrolled intervening flow. Major Missouri River tributaries between Gavins Point and Waverly include the James, Big Sioux, Platte (Nebraska), Nishnabatna, Nemaha, Nodaway, Platte (Missouri), and the Kansas Rivers. Such conditions leave very little channel space available for any Phase I releases from the Kansas Basin projects. The Missouri River flow at Waverly has not been below 90K cfs since mid-April, even though significant releases have not been made from the Kansas River projects.
3. A Waverly control point deviation would permit releases from the Kansas projects without requiring water storage within the flood control zone up to the Phase II levels. Requiring that the lakes store water up to the Phase II zone will negatively affect the recreation beneficial purpose, increase the flood risk due to less available flood control volume in the lakes, and could increase government expense due to increased surveillance requirements.
4. We request a deviation to increase the Phase I Waverly criteria from 90K to the Phase II level of 130K cfs. The National Weather Service flood stage for Waverly is 20 feet (128K cfs). We request the deviation until July 31, 2011, or Gavins Point releases are returned to more normal levels, whichever occurs first.


James Pennaz, P.E.
Chief, Hydrologic Engineering Branch

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 8:31 AM
To: [REDACTED] NWD02; [REDACTED] NWD02; Farhat, Jody S NWD02
Subject: FW: WY MT 1Week Precip (UNCLASSIFIED)
Attachments: MT_WY_Week_May_16_22_2011.pdf

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 8:15 AM
To: [REDACTED] NWO; [REDACTED] NWO
Subject: FW: WY MT 1Week Precip (UNCLASSIFIED)

Attached is a precip map of last weeks rain in MT & WY

-----Original Message-----

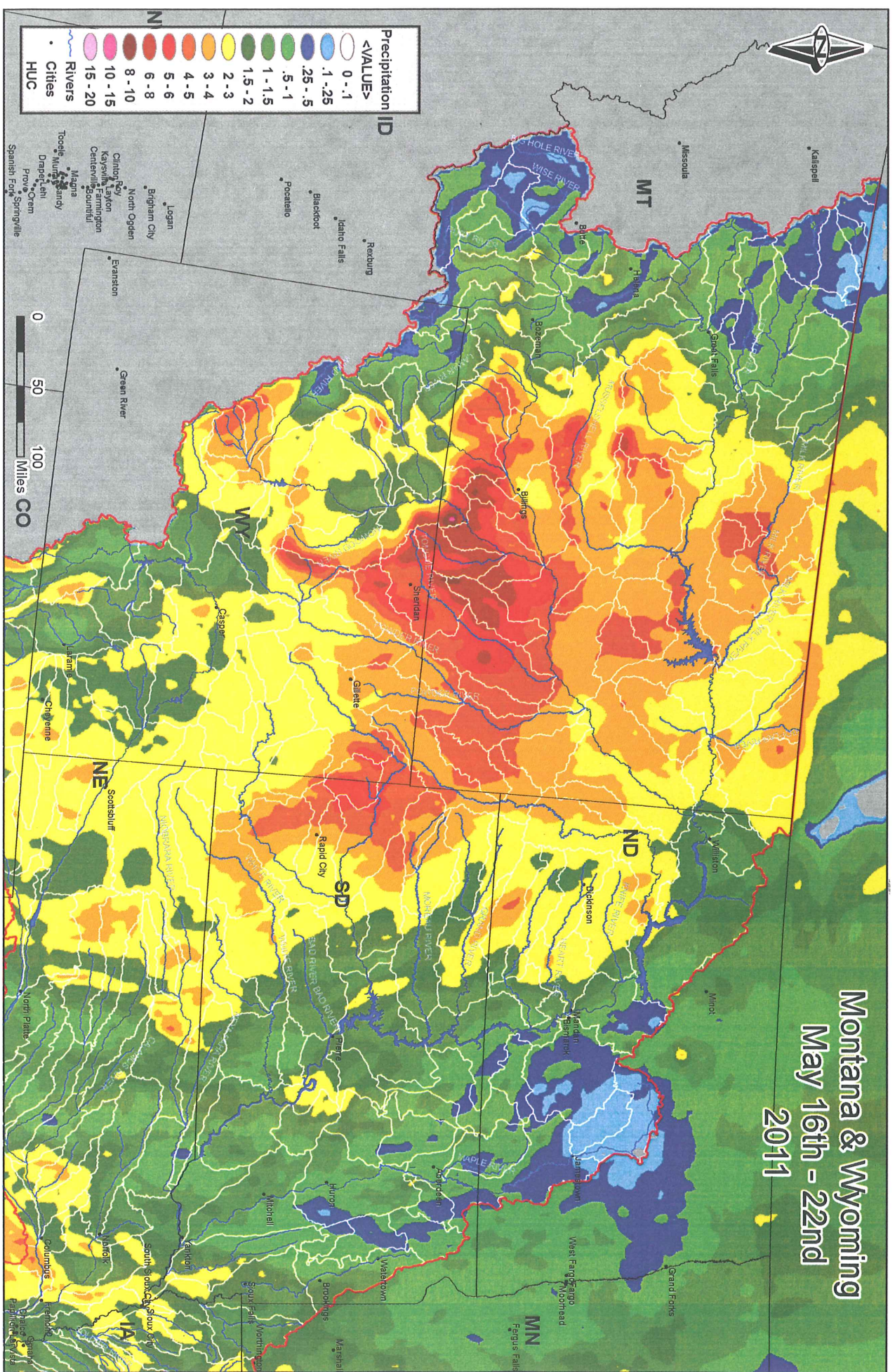
From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 8:10 AM
To: [REDACTED] NWO
Subject: WY MT 1Week Precip (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Montana & Wyoming May 16th - 22nd 2011



[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Tuesday, May 24, 2011 7:38 AM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: FW: Bismarck Rating Curve (UNCLASSIFIED)
Attachments: Bismarck Gage History.xlsx

Classification: UNCLASSIFIED
Caveats: NONE

FYI.

[REDACTED] P.E.
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED] (fax)

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 6:31 PM
To: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] K NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Subject: Bismarck Rating Curve

I extracted historical USGS Missouri River flow measurements at Bismarck stream gage, and compared 1974-1980 values vs. 2005-2011 values. I shows an possible upward shift of 0.5 to 1.0 feet at the upper end of the rating curve. The attached Excel sheet shows a plot of the two time periods. Note that some of the values on left side of curve are ice affected. Also I am plotting the shifted values, and that may not be the proper way to evaluate aggradation trends.

This may indicate we will have higher Bismarck river stages that what has been shown in previous reports. We will find out soon enough as flow increases and USGS make additional measurements.

Thanks, [REDACTED]

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, May 23, 2011 4:31 PM
To: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Subject: Missouri River at Bismarck Flooded Areas

FYI attached is the hydro writeup from the Technical Summary, Oahe-Bismarck Area Studies, June 1985. Plates 3, 4, & 5 show the 5-year, 10-year and 100-year flooded areas for the Missouri River near Bismarck. Water surface profiles are shown on Plate 8. Discharges are as follows:

5-year - 58,500 cfs downstream from Heart River, 52,000 upstream from Heart River, Oahe pool level 1613.5.

10-year - 68,500 cfs downstream from Heart River, 57,000 upstream from Heart River, Oahe pool level 1615.0.

100-year - 121,500 cfs downstream from Heart River, 94,000 upstream from Heart River, Oahe pool level 1617.0.

Please contact me if you have any questions.

Thanks,

[REDACTED]
Hydraulic Engineer
Water Control & Water Quality Section
[REDACTED] (office)
[REDACTED] (cell)

-----Original Message-----

From: [REDACTED] A NWO
Sent: Monday, May 23, 2011 4:08 PM
To: [REDACTED] NWO
Subject: Condensed Area Study (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Here is the file - please look it over and make sure I've included all the pages you wanted.

Thanks,

[REDACTED]
Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Meas. Number	Date	Time	Time	Datum	Who	Stream flow (ft³/s)	Gage Height (ft)
2559	5/19/2011	12:50	CDT	BRH/NA S	48700.0	13.2	
2558	5/19/2011	12:12	CDT	BRH/NA S	48900.0	13.2	
2557	5/4/2011	11:28	CDT	BRH/NA S	25300.0	8.13	
2556	11/3/2010	14:30	CDT	BRH/WC D	31100.0	9.4	
2555	9/3/2010	11:37	CDT	BAS/LL R	27400.0	8.64	
2554	7/12/2010	16:24	CDT	BRH BRH/LL	14100.0	5.57	
2553	6/14/2010	15:51:30	CDT	R BAS/LL	15900.0	5.99	
2552	4/21/2010	9:19	CDT	R BRH/WC	10500.0	4.84	
2551	11/9/2009	14:18	CST	D	13600.0	5.1	
2550	9/29/2009	10:48	CDT	BRH BRH/LL	12800.0	4.99	
2549	7/23/2009	15:57	CDT	R WCD/B	16900.0	5.98	
2548	4/14/2009	14:42	CDT	RH BAS/WC	26700.0	10.28	
2547	4/3/2009	13:53	CDT	D WCD/AV	11100.0	6.67	
2546	3/31/2009	16:29	CDT	V BRH/BA	13200.0	10.17	
2545	11/25/2008	13:57	CST	S BRH/WC	11200.0	4.26	
2544	9/24/2008	14:40	CDT	D BRH/WC	11200.0	4.22	
2543	6/16/2008	10:24	CDT	D BRH/LL	13800.0	4.96	
2542	5/5/2008	15:06	CDT	R BRH/DR	11200.0	4.3	
2541	11/19/2007	14:52	CST	R BRH/RJ	11200.0	4.14	
2539	7/2/2007	14:53	CDT	R BRH/WC	15500.0	5.58	
2538	4/13/2007	9:58	CDT	D	12300.0	4.81	

2537	10/24/2006	11:30	CDT	SAH/BA S	11800.0	4.67
2536	8/28/2006	12:05	CDT	SAH/BR H	25600.0	7.95
2535	7/10/2006	14:30	CDT	SAH/WC D	19900.0	6.61
2534	5/22/2006	12:30	CDT	SAH/WC D	14600.0	5
2533	3/24/2006	11:46	CST	SAH/WC D	14400.0	5.24
2532	11/21/2005	14:15	CST	RJR/WC D	12100.0	4.65
2531	9/26/2005	12:10	CDT	SAH/WC D	12600.0	4.63
2530	8/23/2005	10:45	CDT	SAH/WC D	16600.0	5.63
2529	7/5/2005	15:35	CDT	SAH/WC D	16500.0	5.57
2528	4/6/2005	12:40	CDT	SAH/KC V	20500.0	6.61
2527	11/22/2004	13:45	CST	SAH/WC D	12500.0	4.66
2526	10/21/2004	14:15	CDT	SAH/LA C	12200.0	4.34
2525	9/3/2004	9:20	CDT	SAH/WC D	16300.0	5.97
2524	8/13/2004	16:00	CDT	LLR/LAC DRR/BR	16600.0	5.88
2523	6/18/2004	12:45	CDT	RJR/SA H	18400.0	6.13
2522	5/6/2004	12:30	CDT	DRR/S H	14000.0	5.18
2521	3/26/2004	10:50	CST	WN	15300.0	5.76
2520	11/11/2003	14:40	CST	WED SWN/S	11000.0	4.3
2519	11/11/2003	13:15	CST	MR	10900.0	4.3
2518	10/23/2003	14:30	CDT	LLR/LAC	10300.0	4.02
2517	9/19/2003	12:50	CDT	SWN DRR/LA	12800.0	5.09
2516	9/19/2003	12:30	CDT	C DRR/BR	13300.0	5.07
2515	7/10/2003	8:20	CDT	H DRR/BR	22800.0	7.17
2514	6/3/2003	12:00	CDT	H DRR/LA	22900.0	7.13
2513	5/7/2003	13:30	CDT	C	15800.0	5.89

2512 4/2/2003	11:30	CST MJV/LLR DRR/BA	13100.0	5.11
2511 10/25/2002	12:30	CDT S DRR/RF	13900.0	5.26
2510 9/4/2002	12:25	CDT L DRR/LL	23200.0	7.12
2509 7/22/2002	11:40	CDT R JML/SM	21700.0	6.77
2508 5/30/2002	15:36	CDT R DRR/SA	6.7	15
2507 5/13/2002	13:30	CDT H	16100.0	5.16
2506 11/19/2001	15:00	CST RFL/LAC	9570.0	3.62
2505 9/25/2001	11:30	CDT RJR/RFL	9700.0	3.61
2504 8/21/2001	12:00	CDT WRB/KV DRR/MJ	14100.0	4.69
2503 7/12/2001	10:00	CDT V DRR/MJ	13700.0	4.63
2502 7/11/2001	11:15	CDT V MJV/WR	4.5	0
2501 6/21/2001	11:00	CDT B DRR/RJ	14000.0	5.25
2500 5/14/2001	12:30	CDT R	11400.0	3.85
2499 4/25/2001	11:00	CDT RFL/MJV	13200.0	4.55
2498 3/19/2001	11:00	CST JDH	18800.0	6.56
2497 10/2/2000	12:00	CDT RJR/JDH	14800.0	4.97
2496 9/12/2000	12:00	CDT LLR/RJR LLR/BA	18500.0	6.05
2495 8/17/2000	11:30	CDT S	24100.0	7.2
2494 7/19/2000	11:50	CDT LLR/LAC LLR/WW	23300.0	7.29
2493 5/18/2000	11:50	CDT B	26600.0	7.67
2492 4/26/2000	10:45	CDT RFL/LRR	20700.0	6.23
2491 4/3/2000	12:45	CDT RFL/JDH	17800.0	5.65
2490 3/3/2000	13:35	CST RFL/MJV RFL/BA	26300.0	8.02
2489 11/10/1999	13:40	CST S	16700.0	5.55

2488	10/29/1999	13:30	CDT LLR/RFL	18600.0	6.01
2487	9/29/1999	13:05	CDT LLR/LAC	23600.0	7.13
2486	8/17/1999	13:50	CDT bas/rfl MJV/LA	28000.0	8.45
2485	7/14/1999	10:55	CDT C WRB/MJ	28600.0	8.33
2484	6/18/1999	10:10	CDT V LLR/WR	29500.0	8.71
2483	5/11/1999	14:46	CDT B WRB/MJ	26700.0	8.11
2482	4/7/1999	12:00	CDT V LLR/BA	27700.0	8.45
2481	11/30/1998	15:40	CST S WAB/LA	23200.0	6.64
2480	10/7/1998	12:30	CDT C	16500.0	5.47
2479	8/28/1998	10:15	CDT LLR/LAC	24500.0	7.33
2478	7/14/1998	10:40	CDT LLR/LAC LLR/DR	23700.0	7.09
2477	6/10/1998	16:05	CDT R	26000.0	7.81
2476	5/1/1998	10:00	CDT MJV/LLR	19200.0	6.1
2475	3/23/1998	11:25	CST LLR/MJV	17900.0	6.1
2474	11/5/1997	12:10	CST LLR/MJV	48400.0	12.45
2473	9/25/1997	9:15	CDT LLR/MJV	44300.0	12
2472	8/7/1997	13:50	CDT LLR/LAC	48100.0	12.63
2471	7/21/1997	13:15	CDT LLR/KJV	59000.0	13.9
2470	7/10/1997	14:15	CDT LLR/RJR DRR/RJ	56800.0	13.69
2469	7/8/1997	12:00	CDT R	54800.0	13.66
2468	6/27/1997	12:30	CDT LLR/RJR	46500.0	12.08
2467	5/29/1997	9:40	CDT LLR/MJV WAB/KJ	43000.0	11.46
2466	3/28/1997	12:35	CST V	24100.0	10.45
2465	10/24/1996	15:45	CDT LAC/LLR	27500.0	8.47

2464	8/9/1996	11:35	CDT	LLR/CR M	39200.0	10.69
2463	7/3/1996	16:30	CDT	LAC/LLR	36600.0	10.97
2462	5/23/1996	12:15	CDT	LLR/RJR	36400.0	10.42
2461	4/12/1996	15:50	CDT	LLR/KV LLR/DR	36800.0	10.44
2460	12/4/1995	12:05	CST	R	22200.0	6.87
2459	11/21/1995	13:00	CST	MJV/LLR	38700.0	10.5
2458	9/15/1995	12:15	CDT	RJR/LLR	41600.0	11.07
2457	8/28/1995	12:30	CDT	RJR/LLR	44400.0	11.02
2456	8/18/1995	11:45	CDT	RJR/LLR SWN/LL	42100.0	10.88
2455	7/20/1995	14:15	CDT	R MJV/DR	13400.0	5.39
2454	4/12/1995	12:46	CDT	R MJV/RJ	12600.0	4.9
2453	7/26/1994	10:15	CDT	R MJV/RJ	19600.0	6.76
2452	6/2/1994	11:30	CDT	R	27000.0	8.49
2451	4/11/1994	12:00	CDT	MJV/DR	12200.0	4.66
2450	9/27/1993	12:30	CDT	MJV/TJS	11000.0	4.17
2449	8/17/1993	10:30	CDT	MJV/TJS MJV/SL	16960.0	6.13
2448	6/3/1993	11:25	CDT	C MJV/RJ	17120.0	5.81
2447	4/21/1993	11:10	CDT	R	10400.0	3.72
2446	11/18/1992	9:30	CST	MJV/TJS	10600.0	4.07
2445	9/11/1992	8:15	CDT	MJV/JT	17800.0	6.4
2444	8/10/1992	12:55	CDT	TJS/RJE	18100.0	6.23
2443	6/24/1992	10:30	CDT	MJV/TJS	19500.0	6.74
2442	5/7/1992	12:00	CDT	TJS/BJR	21400.0	6.97
2441	5/5/1992	11:45	CDT	MJV/BJR	21400.0	7.08
2440	3/26/1992	14:00	CST	MJV/TS	13200.0	4.79

2439	3/3/1992	12:40	CST	MJV/TW S	18000.0	6.65
2438	9/30/1991	13:40	CDT	MJV/JD W	9370.0	3.86
2437	8/12/1991	14:15	CDT	MJV	20200.0	6.87
2436	4/19/1991	10:00	CDT	REH	31400.0	9.23
2435	4/18/1991	--	--	-- DLE	32800	
2434	4/1/1991	10:20	CST	MJV	11100.0	4.1
2433	11/2/1990	10:30	CST	REH	11400.0	3.97
2432	11/1/1990	8:45	CST	REH	11300.0	4
2431	8/23/1990	9:10	CDT	MJV	18400.0	6.33
2430	6/8/1990	7:30	CDT	MJV/KM R	22200.0	6.97
2429	3/27/1990	8:40	CST	MJV	15400.0	5.26
2428	11/30/1989	12:38	CST	MJV/LA C	21800.0	7.18
2427	10/24/1989	13:00	CDT	MJV/TA G	11600.0	4.27
2426	10/11/1989	12:40	CDT	NDH/MJ V	11500.0	4.2
2425	9/5/1989	12:10	CDT	KMR/MJ V	16700.0	5.8
2424	7/20/1989	11:05	CDT	KMR/MJ V	24200.0	7.51
2423	6/6/1989	10:38	CDT	KMR/MJ V	24300.0	7.61
2422	5/4/1989	11:15	CDT	SWN/TJ W	19600.0	6.43
2421	4/27/1989	12:30	CDT	SWN/K MR	17800.0	6.18
2420	12/19/1988	15:40	CST	MR EAW	21200.0	6.9
2419	11/17/1988	14:35	CST	EAW	10400.0	4.14
2418	10/7/1988	12:20	CDT	EAW	12900.0	4.85
2417	9/2/1988	11:30	CDT	EAW	19500.0	6.63
2416	7/21/1988	13:00	CDT	EAW	20300.0	6.65
2415	5/26/1988	12:50	CDT	EAW	20500.0	6.76
2414	5/5/1988	11:01	CDT	WRW/K MR	19200.0	6.41
2413	4/12/1988	15:50	CDT	EAW	19900.0	6.42
2412	10/29/1987	11:30	CST	RWG/EA W	13800.0	5.05
2411	9/24/1987	16:25	CDT	JDH/KM R	18400.0	6.15
2410	9/22/1987	15:50	CDT	SWN/BA S	19100.0	6.44
2409	8/7/1987	--	--	-- RWG	19600	
2408	7/2/1987	--	--	-- RWG	19400	

2407	5/22/1987	--	--	--	RWG	19500
2406	4/15/1987	--	--	--	RWG	11800
2405	10/27/1986	--	--	--	RWG	26800
2404	9/24/1986	--	--	--	RWG	19100
2403	8/5/1986	--	--	--	RWG/MWS	25300
2402	6/16/1986	--	--	--	RWG	15500
2401	4/24/1986	--	--	--	RWG	19400
2400	1/10/1986	--	--	--	RWG/SWN	28400
2399	10/21/1985	--	--	--	RWG/LAC	13500
2398	8/14/1985	--	--	--	RWG/KMJ	19400
2397	6/20/1985	--	--	--	RWG	22500
2396	4/30/1985	--	--	--	RWG	18600
2395	4/2/1985	--	--	--	RWG/LB	20800
2394	11/13/1984	--	--	--	RWG/TAG	27800
2393	9/28/1984	--	--	--	JDH	24900
2392	8/13/1984	--	--	--	JDH	27800
2391	7/12/1984	--	--	--	RWG	21400
2390	6/11/1984	--	--	--	RWG	17600
2389	4/23/1984	--	--	--	RWG	16300
2388	3/24/1984	--	--	--	JDH	21900
2387	2/1/1984	--	--	--	JDH/SWN	31100
2386	11/1/1983	--	--	--	RWG	15300
2385	9/23/1983	--	--	--	SWN/JDH	22000
2384	8/15/1983	--	--	--	GLEICH	26800
2383	6/28/1983	--	--	--	GAUG/KUZ	20400
2382	5/27/1983	--	--	--	GAUGER	18900
2381	4/7/1983	--	--	--	GAUGER	26700
2380	3/2/1983	--	--	--	HEID/GLE	33000
2379	1/20/1983	--	--	--	GAU/BE/N	21200
2378	11/19/1982	--	--	--	GAUGER	33700
2377	11/18/1982	--	--	--	BERG	31100
2376	10/22/1982	--	--	--	GAUGER	22200
2375	9/20/1982	--	--	--	BERG	16800
2374	8/18/1982	--	--	--	GLEICH	21500
2373	6/22/1982	--	--	--	GAUGER	24500
2372	5/18/1982	--	--	--	GAUGER	25800
2371	3/26/1982	--	--	--	BERG/BRO	28300
2370	2/4/1982	--	--	--	GA/WE/HE	34100
2369	1/18/1982	--	--	--	GA/BE/HE	30500
2368	11/12/1981	--	--	--	GAUGER	14000
2367	9/15/1981	--	--	--	GAUGER	16400
2366	8/18/1981	--	--	--	GAUGER	22800
2365	7/14/1981	--	--	--	HEID/COX	31300
2364	6/16/1981	--	--	--	GLEIC/CO	27900
2363	5/8/1981	--	--	--	GAUGER	18600
2362	4/7/1981	--	--	--	GAUGER	17400
2361	3/12/1981	--	--	--	GAUGER	31700

2360	1/27/1981	--	--	--	GLE/HEI/	30100
2359	12/12/1980	--	--	--	GAUGER	26000
2358	11/5/1980	--	--	--	GAUGER	25500
2357	9/19/1980	--	--	--	GAUGER	23500
2356	8/26/1980	--	--	--	GLEICH	25800
2355	7/10/1980	--	--	--	GAUGER	29900
2354	6/19/1980	--	--	--	HEID/GLE	20200
2353	5/14/1980	--	--	--	GAUGER	19900
2352	5/7/1980	--	--	--	GLEICH	21100
2351	4/15/1980	--	--	--	GAUGER	22600
2350	3/12/1980	--	--	--	VARIOUS	31200
2349	2/12/1980	--	--	--	GL/HE/SM	28200
2348	1/18/1980	--	--	--	GLE/HEI/	23500
2347	12/20/1979	--	--	--	HEID/GLE	21100
2346	12/4/1979	--	--	--	GLEICH	16000
2345	11/15/1979	--	--	--	GLEIC/HE	14400
2344	10/15/1979	--	--	--	GAUG/GLE	15600
2343	9/26/1979	--	--	--	GLEICH	17200
2342	8/30/1979	--	--	--	GLEIC/SM	21700
2341	8/2/1979	--	--	--	COX/SMAT	23500
2340	7/5/1979	--	--	--	GLEIC/SM	32000
2339	6/11/1979	--	--	--	GAUG/GLE	42100
2338	5/1/1979	--	--	--	BAST	34900
2337	3/6/1979	--	--	--	VARIOUS	31800
2336	2/20/1979	--	--	--	KUZN/BRO	34000
2335	2/5/1979	--	--	--	BAST/BRO	33600
2334	1/23/1979	--	--	--	BAST/BRO	30000
2333	1/9/1979	--	--	--	SMATH/BR	31300
2332	12/27/1978	--	--	--	GAU/HE/B	20500
2331	11/16/1978	--	--	--	BAST/SMA	33700
2330	10/20/1978	--	--	--	BAST/SMA	33100
2329	9/15/1978	--	--	--	BAST	31700
2328	7/19/1978	--	--	--	GAUGER	42800
2327	6/15/1978	--	--	--	BAST	35700
2326	6/7/1978	--	--	--	BAST	23400
2325	5/10/1978	--	--	--	BAST	18600
2324	4/20/1978	--	--	--	GAUGER	19800
2323	2/14/1978	--	--	--	BROSTROM	30200
2322	1/24/1978	--	--	--	BRO/BAS/	30200
2321	1/3/1978	--	--	--	BROS/GAU	24800
2320	11/14/1977	--	--	--	GAUGER	12300
2319	9/13/1977	--	--	--	BAST	16900
2318	8/8/1977	--	--	--	GAUG/BAS	9200
2317	7/8/1977	--	--	--	GAUGER	17200
2316	6/6/1977	--	--	--	GAUG/TIL	16200
2315	5/17/1977	--	--	--	GAUGER	18800
2314	4/28/1977	--	--	--	BAST/GAU	18800

2313	4/12/1977	--	--	--	GAUGER	17200
2312	3/24/1977	--	--	--	EMERSON	21300
2311	1/25/1977	--	--	--	HEIDT/BR	28700
2310	1/11/1977	--	--	--	GAU/BRO/	28400
2309	12/2/1976	--	--	--	GAUGER	35100
2308	10/4/1976	--	--	--	GAUG/BRO	24500
2307	9/10/1976	--	--	--	GAUGER	27200
2306	8/19/1976	--	--	--	GAUGER	32900
2305	7/29/1976	--	--	--	GAUGER	39500
2304	7/6/1976	--	--	--	GAUGER	36300
2303	6/9/1976	--	--	--	EMERSON	40600
2302	5/20/1976	--	--	--	EMERSON	40200
2301	4/29/1976	--	--	--	GAUG/JOH	34700
2300	4/1/1976	--	--	--	EMER/GAU	34200
2299	2/9/1976	--	--	--	VARIOUS	38900
2298	1/29/1976	--	--	--	VARIOUS	35000
2297	12/9/1975	--	--	--	EMERSON	35500
2296	11/18/1975	--	--	--	EMERSON	36800
2295	11/3/1975	--	--	--	EMERSON	34300
2294	10/20/1975	--	--	--	EMERSON	30800
2293	10/3/1975	--	--	--	EMERSON	39700
2292	9/11/1975	--	--	--	EMERSON	40750
2291	8/21/1975	--	--	--	EMERSON	57700
2290	7/29/1975	--	--	--	EMERSON	66000
2289	7/14/1975	--	--	--	EMERSON	69700
2288	7/9/1975	--	--	--	EMERSON	63900
2287	6/23/1975	--	--	--	EMERSON	42400
2286	6/3/1975	--	--	--	EMERSON	38900
2285	5/16/1975	--	--	--	HANS/EME	33300
2284	4/28/1975	--	--	--	BROS/KAD	21000
2283	4/3/1975	--	--	--	HEIDT/KA	22100
2282	2/14/1975	--	--	--	HAN/BRO/	29800
2281	1/30/1975	--	--	--	HAN/BRO/	27500
2280	1/7/1975	--	--	--	HANSON	22900
2279	12/26/1974	--	--	--	HANSON	21800
2278	12/9/1974	--	--	--	HANSON	26300
2277	11/22/1974	--	--	--	HANS/OUA	25800
2276	11/6/1974	--	--	--	HANSON	27700
2275	10/8/1974	--	--	--	HANS/EME	29300
2274	9/30/1974	--	--	--	HANSON	7930
2273	9/16/1974	--	--	--	HANSON	12900
2272	8/29/1974	--	--	--	HANSON	29300
2271	8/5/1974	--	--	--	HANSON	28400
2270	7/17/1974	--	--	--	HANSON	26900
2269	7/2/1974	--	--	--	HANSON	24200
2268	6/20/1974	--	--	--	HANSON	26800
2267	6/3/1974	--	--	--	BROSTROM	23900

2266	5/14/1974	--	--	--	HANS/JOH	25300
2265	4/25/1974	--	--	--	HARKNESS	22800
2264	4/9/1974	--	--	--	HANSON	24600
2263	3/28/1974	--	--	--	BROS/HAN	27600
2262	3/12/1974	--	--	--	BROS/HAN	29600
2261	2/5/1974	--	--	--	BROS/HAN	27700
2260	1/16/1974	--	--	--	DH/JH/MB	28900
2259	1/2/1974	--	--	--	DE/DH/MB	23300
2258	11/28/1973	--	--	--	HANSON	23500
2257	11/14/1973	--	--	--	HANSON	19700
2256	10/17/1973	--	--	--	HANS/EME	20500
2255	10/5/1973	--	--	--	HANSON	17700
2254	9/19/1973	--	--	--	HANSON	20800
2253	8/29/1973	--	--	--	HANSON	23600
2252	8/16/1973	--	--	--	HANSON	20000
2251	8/2/1973	--	--	--	HANSON	20000
2250	7/17/1973	--	--	--	HANSON	20700
2249	7/3/1973	--	--	--	HANS/JOH	19300
2248	6/21/1973	--	--	--	HANSON	18100
2247	6/5/1973	--	--	--	HANS/JOH	17700
2246	5/17/1973	--	--	--	HANS/JOH	17900
2245	5/2/1973	--	--	--	HANSON	16800
2244	4/11/1973	--	--	--	HANS/BRO	26500
2243	3/26/1973	--	--	--	DH/DE/MB	23600
2242	3/12/1973	--	--	--	BROSTROM	26100
2241	3/7/1973	--	--	--	HANSON	28800
2240	2/16/1973	--	--	--	DH/JH/MB	24300
2239	1/29/1973	--	--	--	LB/MB/DH	26700
2238	1/15/1973	--	--	--	LB/MB/JD	29500
2237	1/2/1973	--	--	--	VARIOUS	25900
2236	12/19/1972	--	--	--	LB/JH/DH	22000
2235	12/1/1972	--	--	--	BROS/HAN	22000
2234	11/20/1972	--	--	--	BACH/HEI	23500
2233	11/6/1972	--	--	--	BROS/HAN	26900
2232	10/25/1972	--	--	--	BACH/HEI	21600
2231	10/3/1972	--	--	--	HANS/BRO	21100
2230	9/20/1972	--	--	--	HARK/HEI	22500
2229	9/5/1972	--	--	--	BACH/BRO	21500
2228	8/21/1972	--	--	--	PEWE	25600
2227	8/7/1972	--	--	--	PEWE	26500
2226	7/17/1972	--	--	--	PEWE	26100
2225	7/5/1972	--	--	--	HEIDT	31900
2224	6/26/1972	--	--	--	BACHMEIE	34400
2223	6/19/1972	--	--	--	PEWE	39500
2222	6/14/1972	--	--	--	HEIDT	42100
2221	6/5/1972	--	--	--	BACHMEIE	41200
2220	5/30/1972	--	--	--	BACHMEIE	41400

2219	5/22/1972 --	--	--	PEWE	43800
2218	5/15/1972 --	--	--	HANSON	40700
2217	5/8/1972 --	--	--	HANSON	40400
2216	5/1/1972 --	--	--	PEWE	41100
2215	4/24/1972 --	--	--	BROSTROM	40200
2214	4/17/1972 --	--	--	PEWE	40800
2213	4/13/1972 --	--	--	HANSON	40200
2212	4/3/1972 --	--	--	BROSTROM	41600
2211	3/27/1972 --	--	--	BROS/HAN	39500
2210	3/24/1972 --	--	--	PEWE	35300
2209	3/17/1972 --	--	--	VOI/PE/H	35000
2208	3/6/1972 --	--	--	VO/BA/HE	33100
2207	2/28/1972 --	--	--	VOI/BA/B	32500
2206	2/22/1972 --	--	--	HANS/PEW	26600
2205	2/14/1972 --	--	--	HE/VOI/B	28300
2204	2/7/1972 --	--	--	HAN/BA/B	31800
2203	1/31/1972 --	--	--	VOI/HE/B	29900
2202	1/24/1972 --	--	--	VOI/HE/H	32400
2201	1/17/1972 --	--	--	HAN/HE/B	34600
2200	1/10/1972 --	--	--	HE/BAC/B	31400
2199	1/4/1972 --	--	--	BACH/BRO	26500
2198	12/28/1971 --	--	--	PE/BAC/B	21400
2197	12/21/1971 --	--	--	PE/HE/HA	17100
2196	12/15/1971 --	--	--	HEIDT/BA	18600
2195	12/6/1971 --	--	--	BACHMEIE	29500
2194	11/29/1971 --	--	--	BROSTROM	29600
2193	11/22/1971 --	--	--	BROSTROM	28900
2192	11/15/1971 --	--	--	BACHMEIE	23600
2191	11/8/1971 --	--	--	HEIDT	22400
2190	11/1/1971 --	--	--	PEWE	21300
2189	10/26/1971 --	--	--	BACHMEIE	25100
2188	10/18/1971 --	--	--	HEIDT	23800
2187	10/12/1971 --	--	--	HANSON	24400
2186	10/4/1971 --	--	--	BACHMEIE	23100
2185	9/27/1971 --	--	--	HEIDT	22500
2184	9/21/1971 --	--	--	BROSTROM	24400
2183	9/13/1971 --	--	--	BACHMEIE	26200
2182	9/7/1971 --	--	--	BROSTROM	24100
2181	8/30/1971 --	--	--	BACHMEIE	29200
2180	8/23/1971 --	--	--	BACHMEIE	28400
2179	8/16/1971 --	--	--	HANSON	27800
2178	8/9/1971 --	--	--	HEIDT	26900
2177	8/2/1971 --	--	--	HANSON	30300
2176	7/26/1971 --	--	--	BACH/HAN	34600
2175	7/19/1971 --	--	--	HANS/HEI	37700
2174	7/12/1971 --	--	--	HEIDT	39700
2173	7/6/1971 --	--	--	BACH/HAN	39300

2172	6/28/1971 --	--	--	BACH/HAN	37800
2171	6/21/1971 --	--	--	HEIDT	37000
2170	6/14/1971 --	--	--	BACHMEIE	35000
2169	6/8/1971 --	--	--	BROSTROM	39300
2168	6/1/1971 --	--	--	WESOLOWS	36800
2167	5/24/1971 --	--	--	HEIDT	41800
2166	5/17/1971 --	--	--	HEIDT	42800
2165	5/3/1971 --	--	--	HEIDT	41000
2164	4/28/1971 --	--	--	HEIDT	39400
2163	4/19/1971 --	--	--	BROSTROM	41700
2162	4/12/1971 --	--	--	BROSTROM	40100
2161	4/5/1971 --	--	--	BROSTROM	31300
2160	3/29/1971 --	--	--	CROSBY	32400
2159	3/22/1971 --	--	--	HEIDT	32100
2158	3/15/1971 --	--	--	BR/HE/PE	36100
2157	3/9/1971 --	--	--	BAC/BRO/	27500
2156	3/4/1971 --	--	--	BROS/HEI	29200
2155	2/22/1971 --	--	--	HEIDT	26900
2154	2/16/1971 --	--	--	BRO/HE/P	28600
2153	2/9/1971 --	--	--	BAC/BRO/	27800
2152	2/1/1971 --	--	--	BRO/HE/P	27300
2151	1/25/1971 --	--	--	BAC/HE/W	30000
2150	1/18/1971 --	--	--	VARIOUS	29100
2149	1/11/1971 --	--	--	PEWE/WES	28700
2148	1/5/1971 --	--	--	BROS/PEW	25700
2147	12/14/1970 --	--	--	HEIDT/BA	27500
2146	12/8/1970 --	--	--	BACHMEIE	31500
2145	11/30/1970 --	--	--	PEWE	32800
2144	11/24/1970 --	--	--	BACH/HEI	34500
2143	11/16/1970 --	--	--	BROSTROM	28400
2142	11/9/1970 --	--	--	HEIDT	27200
2141	11/2/1970 --	--	--	BROSTROM	29500
2140	10/26/1970 --	--	--	HEIDT	29100
2139	10/22/1970 --	--	--	BROSTROM	27900
2138	10/12/1970 --	--	--	BROSTROM	25200
2137	10/5/1970 --	--	--	BACHMEIE	25500
2136	9/28/1970 --	--	--	PEWE	25400
2135	9/21/1970 --	--	--	BROSTROM	21600
2134	9/14/1970 --	--	--	BROSTROM	22100
2133	9/8/1970 --	--	--	HEIDT	21100
2132	8/31/1970 --	--	--	BACHMEIE	29200
2131	8/24/1970 --	--	--	BROSTROM	29600
2130	8/17/1970 --	--	--	PEWE	30200
2129	8/10/1970 --	--	--	PEWE	25900
2128	8/3/1970 --	--	--	WESOLOWS	27700
2127	7/27/1970 --	--	--	BROSTROM	30900
2126	7/23/1970 --	--	--	BROSTROM	31800

2125	7/14/1970 --	--	--	WESOLOWS	27100
2124	7/6/1970 --	--	--	PEWE	29700
2123	6/29/1970 --	--	--	BROSTROM	28100
2122	6/22/1970 --	--	--	BROSTROM	35600
2121	6/15/1970 --	--	--	PEWE	31500
2120	6/8/1970 --	--	--	BROSTROM	33900
2119	6/2/1970 --	--	--	HEIDT	27600
2118	5/25/1970 --	--	--	BACHMEIE	37100
2117	5/18/1970 --	--	--	PEWE	29300
2116	5/11/1970 --	--	--	PEWE	22400
2115	5/4/1970 --	--	--	PEWE	18600
2114	4/30/1970 --	--	--	SHJEFLO	41000
2113	4/21/1970 --	--	--	PEWE	33800
2112	4/15/1970 --	--	--	BROS/PEW	29800
2111	4/6/1970 --	--	--	SHJEFLO	19800
2110	3/30/1970 --	--	--	PEWE	21500
2109	3/23/1970 --	--	--	PEWE	15000
2108	3/19/1970 --	--	--	HEIDT/PE	18500
2107	3/13/1970 --	--	--	VARIOUS	26900
2106	3/5/1970 --	--	--	WES/BR/P	31100
2105	2/16/1970 --	--	--	PEWE	30900
2104	2/9/1970 --	--	--	BROS/PEW	29400
2103	2/3/1970 --	--	--	WES/HE/P	23600
2102	1/26/1970 --	--	--	BAC/BR/H	33900
2101	1/19/1970 --	--	--	WES/BAC/	25500
2100	1/14/1970 --	--	--	BROS/PEW	23900
2099	1/9/1970 --	--	--	WES/HE/P	22500
2098	12/30/1969 --	--	--	PEWE	21000
2097	12/24/1969 --	--	--	WESOLOWS	36400
2096	12/15/1969 --	--	--	BROSTROM	40700
2095	12/8/1969 --	--	--	BROSTROM	36500
2094	12/1/1969 --	--	--	BROSTROM	20800
2093	11/24/1969 --	--	--	WESOLOWS	22000
2092	11/17/1969 --	--	--	HEIDT	27900
2091	11/10/1969 --	--	--	HEIDT	31900
2090	11/3/1969 --	--	--	HEIDT	28000
2089	10/27/1969 --	--	--	PEWE	23900
2088	10/20/1969 --	--	--	PEWE	24500
2087	10/14/1969 --	--	--	HEIDT	27600
2086	10/6/1969 --	--	--	WESOLOWS	25400
2085	9/29/1969 --	--	--	PEWE	23100
2084	9/22/1969 --	--	--	WESOLOWS	24700
2083	9/15/1969 --	--	--	PEWE	28500
2082	9/8/1969 --	--	--	BACHMEIE	32400
2081	9/2/1969 --	--	--	PEWE	34700
2080	8/25/1969 --	--	--	PEWE	33300
2079	8/18/1969 --	--	--	PEWE	32800

2078	8/11/1969 --	--	--	PEWE	31000
2077	8/5/1969 --	--	--	WESOLOWS	30900
2076	7/28/1969 --	--	--	BACHMEIE	36300
2075	7/22/1969 --	--	--	PEWE	35700
2074	7/14/1969 --	--	--	PEWE	27400
2073	7/7/1969 --	--	--	PEWE	20000
2072	6/30/1969 --	--	--	PEWE	15900
2071	6/23/1969 --	--	--	PEWE	14200
2070	6/19/1969 --	--	--	PEWE	14100
2069	6/16/1969 --	--	--	PEWE	17300
2068	6/9/1969 --	--	--	PEWE	22500
2067	6/2/1969 --	--	--	PEWE	23100
2066	5/26/1969 --	--	--	PEWE	19900
2065	5/19/1969 --	--	--	BACHMEIE	21300
2064	5/12/1969 --	--	--	PEWE	25700
2063	5/5/1969 --	--	--	WESOLOWS	28200
2062	4/28/1969 --	--	--	BROSTROM	30600
2061	4/21/1969 --	--	--	SHJEFLO	27900
2060	4/15/1969 --	--	--	PEWE	25500
2059	4/10/1969 --	--	--	PEWE	42200
2058	4/8/1969 --	--	--	PEWE	47900
2057	4/1/1969 --	--	--	PEWE	28100
2056	3/24/1969 --	--	--	BACH/HEI	28100
2055	3/20/1969 --	--	--	WESOLOWS	35300
2054	3/17/1969 --	--	--	MB/RK/PE	37300
2053	3/11/1969 --	--	--	HE/EW/RP	33100
2052	3/10/1969 --	--	--	EW/JH/PW	34900
2051	3/5/1969 --	--	--	MB/LB/RP	35900
2050	2/28/1969 --	--	--	HEIDT/PE	36400
2049	2/17/1969 --	--	--	WESO/PEW	35500
2048	2/10/1969 --	--	--	RP/JH/MB	32900
2047	1/31/1969 --	--	--	BACH/BRO	34200
2046	1/27/1969 --	--	--	RP/LB/EW	34100
2045	1/20/1969 --	--	--	BR/PEW/W	35300
2044	1/13/1969 --	--	--	PEWE/HEI	36200
2043	1/6/1969 --	--	--	BROS/PEW	28700
2042	12/17/1968 --	--	--	BROSTROM	23100
2041	12/9/1968 --	--	--	BACHMEIE	41100
2040	12/2/1968 --	--	--	BROSTROM	32100
2039	11/25/1968 --	--	--	BACHMEIE	27100
2038	11/18/1968 --	--	--	HEIDT	23700
2037	11/12/1968 --	--	--	BACHMEIE	23700
2036	11/4/1968 --	--	--	BROSTROM	22300
2035	10/28/1968 --	--	--	BROSTROM	26400
2034	10/21/1968 --	--	--	PEWE	30500
2033	10/14/1968 --	--	--	BROSTROM	36300
2032	10/7/1968 --	--	--	BACHMEIE	36200

2031	9/30/1968 --	--	--	PEWE	38000
2030	9/23/1968 --	--	--	PEWE	29800
2029	9/16/1968 --	--	--	PEWE	21100
2028	9/9/1968 --	--	--	PEWE	18400
2027	9/3/1968 --	--	--	WESOLOW	18500
2026	8/26/1968 --	--	--	PEWE	29600
2025	8/19/1968 --	--	--	HEIDT	17500
2024	8/12/1968 --	--	--	PEWE	16800
2023	8/5/1968 --	--	--	PEWE	23700
2022	7/29/1968 --	--	--	PEWE	17600
2021	7/22/1968 --	--	--	PEWE	20000
2020	7/15/1968 --	--	--	PEWE	14900
2019	7/8/1968 --	--	--	BACHMEIE	16600
2018	7/1/1968 --	--	--	PEWE	16000
2017	6/24/1968 --	--	--	HEIDT	13800
2016	6/17/1968 --	--	--	PEWE	17700
2015	6/10/1968 --	--	--	BROSTROM	15700
2014	6/3/1968 --	--	--	BACHMEIE	15600
2013	5/27/1968 --	--	--	BROSTROM	22100
2012	5/20/1968 --	--	--	BACHMEIE	22700
2011	5/13/1968 --	--	--	PEWE	22500
2010	5/6/1968 --	--	--	BACHMEIE	22200
2009	4/29/1968 --	--	--	PEWE	17500
2008	4/23/1968 --	--	--	HEIDT	20100
2007	4/15/1968 --	--	--	HEIDT	27200
2006	4/8/1968 --	--	--	BROSTROM	28400
2005	4/1/1968 --	--	--	WESOLOW	8410
2004	3/29/1968 --	--	--	WESOLOW	8580
2003	3/25/1968 --	--	--	WESOLOW	9120
2002	3/18/1968 --	--	--	LB/RP/JH	23900
2001	3/11/1968 --	--	--	PEWE/WES	27900
2000	3/4/1968 --	--	--	BROS/WES	34300
1999	2/26/1968 --	--	--	MB/EW/LB	35100
1998	2/19/1968 --	--	--	MB/JH/LB	33800
1997	2/12/1968 --	--	--	MB/EW/LB	29700
1996	2/5/1968 --	--	--	PEWE/HEI	31200
1995	1/29/1968 --	--	--	BACH/BRO	28700
1994	1/23/1968 --	--	--	BACH/BRO	28500
1993	1/15/1968 --	--	--	RP/EW/LB	30600
1992	1/8/1968 --	--	--	BACH/WES	24000
1991	1/3/1968 --	--	--	PEWE/WES	22200
1990	12/29/1967 --	--	--	LB/MB/JH	22400
1989	12/11/1967 --	--	--	HEIDT	37400
1988	12/4/1967 --	--	--	PEWE	30600
1987	11/27/1967 --	--	--	WESO/BRO	34100
1986	11/20/1967 --	--	--	BACHMEIE	22000
1985	11/13/1967 --	--	--	WESOLOW	20500

1984	11/6/1967 --	--	--	PEWE	25200
1983	10/30/1967 --	--	--	WESOLOWS	33900
1982	10/24/1967 --	--	--	WESOLOWS	29400
1981	10/16/1967 --	--	--	WESOLOWS	26900
1980	10/9/1967 --	--	--	BACHMEIE	31800
1979	10/3/1967 --	--	--	BACHMEIE	30800
1978	9/25/1967 --	--	--	WESOLOWS	20500
1977	9/22/1967 --	--	--	HARK/WES	12300
1976	9/20/1967 --	--	--	HARK/WES	13900
1975	9/18/1967 --	--	--	PEWE	26100
1974	9/11/1967 --	--	--	HARK/WES	30300
1973	9/5/1967 --	--	--	HEIDT	27500
1972	8/28/1967 --	--	--	PEWE	38700
1971	8/21/1967 --	--	--	BACHMEIE	41300
1970	8/16/1967 --	--	--	BROS/WES	39300
1969	8/7/1967 --	--	--	PEWE	38200
1968	7/31/1967 --	--	--	PEWE	39600
1967	7/24/1967 --	--	--	PEWE	41000
1966	7/17/1967 --	--	--	BACHMEIE	39500
1965	7/10/1967 --	--	--	HEIDT	21900
1964	7/3/1967 --	--	--	BACHMEIE	23600
1963	6/25/1967 --	--	--	BACHMEIE	22600
1962	6/19/1967 --	--	--	SHJ/WESO	35700
1961	6/12/1967 --	--	--	BACHMEIE	32600
1960	6/5/1967 --	--	--	HEIDT	14400
1959	5/29/1967 --	--	--	PEWE	9910
1958	5/23/1967 --	--	--	BROSTROM	8700
1957	5/15/1967 --	--	--	PEWE	11400
1956	5/8/1967 --	--	--	BACHMEIE	11600
1955	5/2/1967 --	--	--	BROS/HEI	11200
1954	4/24/1967 --	--	--	BACH/RAN	17200
1953	4/17/1967 --	--	--	HEIDT	10200
1952	4/10/1967 --	--	--	HARKNESS	13200
1951	4/3/1967 --	--	--	HARKNESS	31800
1950	3/27/1967 --	--	--	HARKNESS	22000
1949	3/20/1967 --	--	--	HARK/BRO	29400
1948	3/13/1967 --	--	--	HARK/BRO	35800
1947	3/6/1967 --	--	--	BACH/HEI	32500
1946	2/27/1967 --	--	--	BROS/PEW	35100
1945	2/20/1967 --	--	--	BACH/HEI	27900
1944	2/13/1967 --	--	--	BACH/BRO	32000
1943	2/6/1967 --	--	--	WH/LB/JH	22500
1942	1/30/1967 --	--	--	LB/WH/JH	28400
1941	1/23/1967 --	--	--	RP/LB/WH	30800
1940	1/18/1967 --	--	--	JH/LB/WH	21600
1939	1/12/1967 --	--	--	VARIOUS	27600
1938	12/20/1966 --	--	--	HARK/BAC	28400

1937	12/5/1966	--	--	BACH/HEI	22300
1936	11/28/1966	--	--	PEWE	29500
1935	11/21/1966	--	--	BROSTROM	26000
1934	11/14/1966	--	--	HARKNESS	26000
1933	11/7/1966	--	--	BROSTROM	21500
1932	10/31/1966	--	--	BROSTROM	23500
1931	10/24/1966	--	--	HARKNESS	25200
1930	10/17/1966	--	--	HARKNESS	21700
1929	10/10/1966	--	--	HARKNESS	20000
1928	10/3/1966	--	--	HEIDT	14700
1927	9/25/1966	--	--	HEIDT	13400
1926	9/20/1966	--	--	HEIDT	16100
1925	9/12/1966	--	--	BACHMEIE	17000
1924	9/6/1966	--	--	HARKNESS	18700
1923	8/29/1966	--	--	HEIDT	20400
1922	8/23/1966	--	--	BACHMEIE	19500
1921	8/15/1966	--	--	HARKNESS	21800
1920	8/8/1966	--	--	BACHMEIE	15900
1919	8/1/1966	--	--	PEWE	20500
1918	7/25/1966	--	--	HEIDT	17800
1917	7/18/1966	--	--	PEWE	19800
1916	7/11/1966	--	--	PEWE	20000
1915	7/5/1966	--	--	BACHMEIE	17000
1914	6/27/1966	--	--	HEIDT	18600
1913	6/20/1966	--	--	HEIDT	12700
1912	6/13/1966	--	--	PEWE	11800
1911	6/6/1966	--	--	HEIDT	11700
1910	5/31/1966	--	--	PEWE	11400
1909	5/23/1966	--	--	BACHMEIE	11500
1908	5/16/1966	--	--	PEWE	10600
1907	5/10/1966	--	--	HEIDT	9600
1906	5/2/1966	--	--	BACHMEIE	10200
1905	4/25/1966	--	--	PEWE	9720
1904	4/18/1966	--	--	BACHMEIE	9760
1903	4/11/1966	--	--	HEIDT	10300
1902	4/4/1966	--	--	BROSTROM	10600
1901	3/28/1966	--	--	HEIDT	14700
1900	3/22/1966	--	--	BROSTROM	23300
1899	3/7/1966	--	--	HARK/BRO	28400
1898	3/1/1966	--	--	HARK/BAC	26400
1897	2/21/1966	--	--	HARK/BRO	27600
1896	2/14/1966	--	--	HARK/HEI	24800
1895	2/7/1966	--	--	BROS/HEI	30800
1894	2/1/1966	--	--	HARK/HEI	27750
1893	1/24/1966	--	--	HARK/BRO	25900
1892	1/17/1966	--	--	BROS/HEI	20400
1891	1/10/1966	--	--	BACH/HEI	20400

1890	1/7/1966 --	--	--	LB/MB/FB	11100
1889	12/20/1965 --	--	--	HEIDT	36600
1888	12/13/1965 --	--	--	HARKNESS	21900
1887	12/7/1965 --	--	--	HARKNESS	35100
1886	11/30/1965 --	--	--	HEIDT	35500
1885	11/23/1965 --	--	--	BACHMEIE	35600
1884	11/17/1965 --	--	--	HEIDT	34500
1883	11/8/1965 --	--	--	BROSTROM	31800
1882	11/1/1965 --	--	--	HEIDT	30900
1881	10/25/1965 --	--	--	HEIDT	27400
1880	10/18/1965 --	--	--	BACHMEIE	29200
1879	10/11/1965 --	--	--	HEIDT	28100
1878	10/4/1965 --	--	--	BACHMEIE	23400
1877	9/27/1965 --	--	--	HARKNESS	20600
1876	9/20/1965 --	--	--	HEIDT	10600
1875	9/13/1965 --	--	--	HEIDT	10700
1874	9/7/1965 --	--	--	SHJEFLO	10500
1873	8/30/1965 --	--	--	BACHMEIE	13700
1872	8/23/1965 --	--	--	HEIDT	12800
1871	8/16/1965 --	--	--	CROSBY	11000
1870	8/9/1965 --	--	--	CROSBY	14800
1869	8/2/1965 --	--	--	HEIDT	16100
1868	7/26/1965 --	--	--	CROSBY	15600
1867	7/19/1965 --	--	--	BACHMEIE	19900
1866	7/12/1965 --	--	--	HARKNESS	29700
1865	7/6/1965 --	--	--	HEIDT	24600
1864	6/28/1965 --	--	--	BACHMEIE	23800
1863	6/25/1965 --	--	--	BACHMEIE	16400
1862	6/21/1965 --	--	--	HARKNESS	30900
1861	6/14/1965 --	--	--	BACHMEIE	32200
1860	6/7/1965 --	--	--	HEIDT	32400
1859	6/1/1965 --	--	--	SHJEFLO	25400
1858	5/25/1965 --	--	--	HEIDT	31200
1857	5/20/1965 --	--	--	BACHMEIE	34000
1855	5/10/1965 --	--	--	HEIDT	15300
1856	5/7/1965 --	--	--	HARKNESS	23600
1854	5/3/1965 --	--	--	HARKNESS	14800
1853	4/26/1965 --	--	--	BROSTROM	23600
1852	4/19/1965 --	--	--	SHJEFLO	24800
1851	4/14/1965 --	--	--	SHJEFLO	34600
1850	4/5/1965 --	--	--	BACH/HEI	30000
1849	3/29/1965 --	--	--	BACH/HEI	33000
1848	3/22/1965 --	--	--	BROS/HAR	32000
1847	3/15/1965 --	--	--	BROS/PEW	30200
1846	3/8/1965 --	--	--	HARK/HEI	32500
1845	3/1/1965 --	--	--	HEID/BAC	33200
1844	2/23/1965 --	--	--	HARK/HEI	32000

1843	2/15/1965 --	--	--	HEID/BRO	31000
1842	2/8/1965 --	--	--	HEID/BRO	30400
1841	2/2/1965 --	--	--	BROS/CRO	29300
1840	1/25/1965 --	--	--	HEID/BAC	30500
1839	1/18/1965 --	--	--	HEID/BAC	27500
1838	1/11/1965 --	--	--	HEID/BAC	27500
1837	1/4/1965 --	--	--	HARK/BAC	27100
1836	12/28/1964 --	--	--	HAR/BRO/	25600
1835	12/21/1964 --	--	--	HAR/HEI/	24700
1834	12/14/1964 --	--	--	BROS/HAR	14300
1833	12/7/1964 --	--	--	BROS/HAR	20900
1832	11/23/1964 --	--	--	HEIDT	29600
1831	11/16/1964 --	--	--	HEIDT	21500
1830	11/9/1964 --	--	--	HARKNESS	18700
1829	11/2/1964 --	--	--	HEIDT	16700
1828	10/26/1964 --	--	--	HARKNESS	17400
1827	10/20/1964 --	--	--	HARKNESS	8420
1826	10/19/1964 --	--	--	HARK/CRO	6400
1825	10/12/1964 --	--	--	BACHMEIE	18500
1824	10/5/1964 --	--	--	HEIDT	18300
1823	9/28/1964 --	--	--	HEIDT	21500
1822	9/21/1964 --	--	--	HEIDT	21300
1821	9/14/1964 --	--	--	HEIDT	19600
1820	9/8/1964 --	--	--	HEIDT	12400
1819	8/31/1964 --	--	--	BACHMEIE	12500
1818	8/25/1964 --	--	--	HEIDT	12300
1817	8/17/1964 --	--	--	BACHMEIE	13800
1816	8/10/1964 --	--	--	BACHMEIE	13800
1815	8/4/1964 --	--	--	CROSBY	13300
1814	7/27/1964 --	--	--	BACHMEIE	13200
1813	7/20/1964 --	--	--	HEIDT	13200
1812	7/13/1964 --	--	--	HEIDT	12600
1811	7/6/1964 --	--	--	BACHMEIE	15500
1810	6/29/1964 --	--	--	BROS/HEI	23200
1809	6/22/1964 --	--	--	HEIDT	26500
1808	6/15/1964 --	--	--	BROSTROM	19100
1807	6/8/1964 --	--	--	BACHMEIE	14000
1806	6/1/1964 --	--	--	BACHMEIE	11100
1805	5/25/1964 --	--	--	HEIDT	10800
1804	5/18/1964 --	--	--	BACHMEIE	20500
1803	5/11/1964 --	--	--	SHJEFLO	21900
1802	5/4/1964 --	--	--	SHJEFLO	18300
1801	4/27/1964 --	--	--	SHJEFLO	19200
1800	4/20/1964 --	--	--	BACHMEIE	23100
1799	4/13/1964 --	--	--	BROSTROM	23100
1798	4/8/1964 --	--	--	HEIDT	24400
1797	4/6/1964 --	--	--	SHJEFLO	17200

1796	4/2/1964 --	--	--	BROSTROM	16000
1795	3/19/1964 --	--	--	HEIDT	25300
1794	3/16/1964 --	--	--	CROSBY	30800
1793	3/12/1964 --	--	--	SCHOP/KN	31200
1792	3/9/1964 --	--	--	BROS/HEI	28600
1791	3/2/1964 --	--	--	BACH/EAS	30200
1790	2/24/1964 --	--	--	BACH/HEI	22400
1789	2/17/1964 --	--	--	HEIDT/EA	29100
1788	2/10/1964 --	--	--	BACH/EAS	25500
1787	2/5/1964 --	--	--	BAC/HEI/	28600
1786	1/27/1964 --	--	--	HEIDT/BA	26500
1785	1/20/1964 --	--	--	BACH/BRO	25900
1784	1/13/1964 --	--	--	HEIDT/BR	21600
1783	1/6/1964 --	--	--	HEID/EAS	22500
1782	12/30/1963 --	--	--	EAST/BRO	19900
1781	12/23/1963 --	--	--	BAC/HE/B	22900
1780	12/19/1963 --	--	--	BROS/EAS	21000
1779	12/9/1963 --	--	--	HEIDT	27100
1778	12/2/1963 --	--	--	BACHMEIE	28300
1777	11/26/1963 --	--	--	EASTMAN	23600
1776	11/19/1963 --	--	--	HEIDT	13600
1775	11/12/1963 --	--	--	BACHMEIE	11400
1774	11/4/1963 --	--	--	HEIDT	11100
1773	10/28/1963 --	--	--	HEIDT	12000
1772	10/21/1963 --	--	--	HEIDT	10500
1771	10/14/1963 --	--	--	BACHMEIE	10200
1770	10/7/1963 --	--	--	SCHOP/EA	12800
1769	9/30/1963 --	--	--	BACH/HEI	12000
1768	9/23/1963 --	--	--	BACH/HEI	14200
1767	9/16/1963 --	--	--	HEIDT	10200
1766	9/9/1963 --	--	--	BACH/CRO	6460
1765	9/3/1963 --	--	--	EASTMAN	6640
1764	8/26/1963 --	--	--	HEIDT	6940
1763	8/19/1963 --	--	--	EASTMAN	7510
1762	8/12/1963 --	--	--	BROSTROM	11400
1761	8/5/1963 --	--	--	HEIDT	12700
1760	7/29/1963 --	--	--	HEIDT	16400
1759	7/22/1963 --	--	--	BROSTROM	25900
1758	7/15/1963 --	--	--	EASTMAN	12700
1757	7/8/1963 --	--	--	LITT/BRO	12800
1756	7/1/1963 --	--	--	HEIDT	14100
1755	6/24/1963 --	--	--	HEIDT	11700
1754	6/17/1963 --	--	--	HEIDT	14200
1753	6/10/1963 --	--	--	HEIDT	20600
1752	6/3/1963 --	--	--	OBR	11500
1751	5/27/1963 --	--	--	OBR	6740
1750	5/20/1963 --	--	--	HEIDT	7340

1749	5/13/1963 --	--	--	OBR	7600
1748	5/6/1963 --	--	--	OBR	7410
1747	4/29/1963 --	--	--	HEIDT/LE	11100
1746	4/22/1963 --	--	--	OBR	25600
1745	4/15/1963 --	--	--	OBR	8150
1744	4/8/1963 --	--	--	SHJEFLO	8810
1743	4/1/1963 --	--	--	SHJEFLO	11900
1742	3/25/1963 --	--	--	OBR/CROS	20800
1741	3/18/1963 --	--	--	HEIDT/OB	21900
1740	3/11/1963 --	--	--	HEID/SCH	23800
1739	3/4/1963 --	--	--	HEIDT/PE	22700
1738	2/25/1963 --	--	--	HEIDT/PE	22100
1737	2/18/1963 --	--	--	EAST/BRO	21200
1736	2/11/1963 --	--	--	PEWE/HEI	18500
1735	2/4/1963 --	--	--	EAST/HEI	18700
1734	1/28/1963 --	--	--	BROS/HEI	22400
1733	1/21/1963 --	--	--	BROS/EAS	20700
1732	1/14/1963 --	--	--	BROS/EAS	19200
1731	1/7/1963 --	--	--	BROS/HEI	19000
1730	12/31/1962 --	--	--	BROS/HEI	11700
1729	12/27/1962 --	--	--	BROS/HEI	12400
1728	12/17/1962 --	--	--	BROSTROM	15400
1727	12/10/1962 --	--	--	HEIDT	15000
1726	12/3/1962 --	--	--	HEIDT	13000
1725	11/26/1962 --	--	--	HEIDT	9460
1724	11/19/1962 --	--	--	LITTLE	7630
1723	11/13/1962 --	--	--	LITTLE	6300
1722	11/5/1962 --	--	--	CROSBY	7510
1721	10/29/1962 --	--	--	HEIDT	6610
1720	10/22/1962 --	--	--	LITTLE	6760
1719	10/15/1962 --	--	--	EASTMAN	8150
1718	10/8/1962 --	--	--	LITTLE	8610
1717	10/1/1962 --	--	--	EASTMAN	7680
1716	9/27/1962 --	--	--	LITTLE	13100
1715	9/24/1962 --	--	--	HEIDT	7240
1714	9/17/1962 --	--	--	EASTMAN	6560
1713	9/10/1962 --	--	--	HEIDT/LI	5980
1712	9/4/1962 --	--	--	EASTMAN	7790
1711	8/27/1962 --	--	--	EASTMAN	7490
1710	8/20/1962 --	--	--	LITTLE	6200
1709	8/13/1962 --	--	--	EASTMAN	8930
1708	8/6/1962 --	--	--	EASTMAN	12600
1707	7/30/1962 --	--	--	LENO	8480
1706	7/23/1962 --	--	--	LENO	16300
1705	7/16/1962 --	--	--	LENO	7240
1704	7/9/1962 --	--	--	LENO	12700
1703	7/2/1962 --	--	--	LITTLE	8500

1702	6/25/1962 --	--	--	EASTMAN	9350
1701	6/18/1962 --	--	--	EASTMAN	27300
1700	6/11/1962 --	--	--	LITTLE	28200
1699	6/4/1962 --	--	--	LENO/LIT	19200
1698	5/28/1962 --	--	--	CROSBY	26000
1697	5/21/1962 --	--	--	CROSBY	23700
1696	5/14/1962 --	--	--	EASTMAN	23500
1695	5/7/1962 --	--	--	CROSBY	16700
1694	4/30/1962 --	--	--	SHJEFLO	19600
1693	4/23/1962 --	--	--	SHJEFLO	23500
1692	4/16/1962 --	--	--	BROSTROM	21400
1691	4/9/1962 --	--	--	ERSKINE	25300
1690	4/6/1962 --	--	--	ERSKINE	22500
1689	4/3/1962 --	--	--	ERSKINE	26500
1688	3/20/1962 --	--	--	LITT/SCH	21600
1687	3/12/1962 --	--	--	LITT/EAS	23700
1686	3/5/1962 --	--	--	PEWE/EAS	22700
1685	2/26/1962 --	--	--	BROS/LIT	23100
1684	2/19/1962 --	--	--	PEWE/LIT	25500
1683	2/12/1962 --	--	--	LITT/BEA	25500
1682	2/5/1962 --	--	--	BROS/LIT	23900
1681	1/29/1962 --	--	--	BROS/EAS	24300
1680	1/22/1962 --	--	--	LITT/EAS	24200
1679	1/15/1962 --	--	--	BROS/EAS	18300
1678	1/2/1962 --	--	--	LITT/BRO	22200
1677	12/26/1961 --	--	--	BROS/ONE	22200
1676	12/18/1961 --	--	--	LITT/BRO	13700
1675	12/5/1961 --	--	--	EASTMAN	14300
1674	11/27/1961 --	--	--	LITTLE	18800
1673	11/20/1961 --	--	--	LITTLE	29400
1672	11/13/1961 --	--	--	BROSTROM	28100
1671	11/6/1961 --	--	--	BROSTROM	25600
1670	10/30/1961 --	--	--	LITTLE	23900
1669	10/23/1961 --	--	--	BROSTROM	25200
1668	10/16/1961 --	--	--	BROSTROM	13000
1667	10/10/1961 --	--	--	BROSTROM	7060
1666	10/2/1961 --	--	--	LITTLE	6910
1665	9/25/1961 --	--	--	BROSTROM	7620
1664	9/18/1961 --	--	--	LITTLE	8330
1663	9/11/1961 --	--	--	BROSTROM	9250
1662	9/5/1961 --	--	--	LENO	10900
1661	8/28/1961 --	--	--	BROSTROM	18800
1660	8/21/1961 --	--	--	BROSTROM	13500
1659	8/14/1961 --	--	--	CROSBY	14000
1658	8/7/1961 --	--	--	CROSBY	18500
1657	7/31/1961 --	--	--	CROSBY	17700
1656	7/24/1961 --	--	--	BROSTROM	13400

1655	7/17/1961 --	--	--	CROSBY	12800
1654	7/10/1961 --	--	--	BROSTROM	10600
1653	7/3/1961 --	--	--	EASTMAN	11900
1652	6/26/1961 --	--	--	CROSBY	10200
1651	6/19/1961 --	--	--	SHJEFLO	20200
1650	6/12/1961 --	--	--	CROSBY	13300
1649	6/5/1961 --	--	--	LITTLE	15000
1648	5/29/1961 --	--	--	EASTMAN	14600
1647	5/22/1961 --	--	--	SHJEFLO	17800
1646	5/15/1961 --	--	--	PEWE	20300
1645	5/8/1961 --	--	--	SHJEFLO	20700
1644	5/1/1961 --	--	--	PEWE	20100
1643	4/24/1961 --	--	--	LITTLE	20600
1642	4/17/1961 --	--	--	BROSTROM	19500
1641	4/10/1961 --	--	--	EASTMAN	20800
1640	4/3/1961 --	--	--	PEWE	21800
1639	3/27/1961 --	--	--	PEWE	16700
1638	3/20/1961 --	--	--	PEWE	19400
1637	3/13/1961 --	--	--	PEWE/CRO	23100
1636	3/6/1961 --	--	--	BROS/PEW	22100
1635	2/27/1961 --	--	--	BROS/PEW	19700
1634	2/20/1961 --	--	--	BROS/PEW	18700
1633	2/13/1961 --	--	--	BROS/PEW	20300
1632	2/6/1961 --	--	--	BROS/PEW	22200
1631	1/30/1961 --	--	--	SHJ/PW/B	20600
1630	1/23/1961 --	--	--	BROS/PEW	20500
1629	1/16/1961 --	--	--	BROS/PEW	21900
1628	1/9/1961 --	--	--	EAST/BRO	21500
1627	1/6/1961 --	--	--	MSHJ/BRO	21400
1626	12/30/1960 --	--	--	CROS/PE/	16500
1625	12/14/1960 --	--	--	CROSBY	16500
1624	12/7/1960 --	--	--	CROS/PEW	12500
1623	12/1/1960 --	--	--	BROSTROM	11700
1622	11/21/1960 --	--	--	BROSTROM	14900
1621	11/14/1960 --	--	--	PEWE	10200
1620	11/7/1960 --	--	--	EASTMAN	10000
1619	10/31/1960 --	--	--	BROSTROM	11000
1618	10/24/1960 --	--	--	EASTMAN	8630
1617	10/17/1960 --	--	--	HONCH/BR	8560
1616	10/10/1960 --	--	--	EASTMAN	9740
1615	10/3/1960 --	--	--	BROSTROM	11400
1614	9/26/1960 --	--	--	SHJEFLO	15700
1613	9/19/1960 --	--	--	SHJEFLO	14200
1612	9/12/1960 --	--	--	CROSBY	11800
1611	9/6/1960 --	--	--	CROS/HON	9890
1610	8/29/1960 --	--	--	LITTLE	11900
1609	8/22/1960 --	--	--	LITTLE	13200

1608	8/15/1960 --	--	--	LITTLE	11800
1607	8/8/1960 --	--	--	LITTLE	11900
1606	8/1/1960 --	--	--	LITTLE	11800
1605	7/25/1960 --	--	--	LITTLE	10800
1604	7/18/1960 --	--	--	LITTLE	10700
1603	7/11/1960 --	--	--	LITTLE	10600
1602	7/5/1960 --	--	--	LITTLE	10800
1601	6/27/1960 --	--	--	LITTLE	8170
1600	6/20/1960 --	--	--	LITTLE	9820
1599	6/13/1960 --	--	--	LITTLE	9160
1598	6/6/1960 --	--	--	LITTLE	7490
1597	5/31/1960 --	--	--	LITTLE	8380
1596	5/24/1960 --	--	--	EASTMAN	14900
1595	5/16/1960 --	--	--	PEWE	10100
1594	5/9/1960 --	--	--	PEWE	19800
1593	5/2/1960 --	--	--	PEWE	11400
1592	4/25/1960 --	--	--	PEWE	7550
1591	4/15/1960 --	--	--	PEWE	14500
1590	4/9/1960 --	--	--	PEWE	16000
1589	4/5/1960 --	--	--	PEWE	19000
1588	3/25/1960 --	--	--	BROS/SAC	24600
1587	3/21/1960 --	--	--	PEWE	14800
1586	3/14/1960 --	--	--	BROS/PEW	16100
1585	3/7/1960 --	--	--	BROS/PEW	18000
1584	3/1/1960 --	--	--	PEWE/EAS	18500
1583	2/23/1960 --	--	--	PEWE/BRO	22800
1582	2/15/1960 --	--	--	PEWE/BRO	16300
1581	2/8/1960 --	--	--	PEWE/EAS	16000
1580	2/1/1960 --	--	--	SACK/BRO	16200
1579	1/26/1960 --	--	--	SACK/EAS	15800
1578	1/19/1960 --	--	--	BROS/EAS	15700
1577	1/14/1960 --	--	--	EAST/PEW	16300
1576	1/8/1960 --	--	--	BROS/PEW	15500
1575	1/5/1960 --	--	--	CROS/BRO	8720
1574	12/28/1959 --	--	--	CROS/BRO	8600
1573	12/21/1959 --	--	--	EAST/CRO	12400
1572	12/15/1959 --	--	--	EAST/CRO	16100
1571	12/9/1959 --	--	--	EAST/CRO	13700
1570	11/9/1959 --	--	--	BROSTROM	19500
1569	11/2/1959 --	--	--	EASTMAN	9200
1568	10/27/1959 --	--	--	EASTMAN	11700
1567	10/19/1959 --	--	--	CROSBY	14800
1566	10/13/1959 --	--	--	EASTMAN	15100
1565	10/5/1959 --	--	--	EASTMAN	20800
1564	9/28/1959 --	--	--	EASTMAN	21400
1563	9/21/1959 --	--	--	CROSBY	21800
1562	9/14/1959 --	--	--	SHJEFLO	21200

1561	9/8/1959 --	--	--	LENO	21800
1560	8/31/1959 --	--	--	STOCKERT	22000
1559	8/24/1959 --	--	--	LENO	22800
1558	8/17/1959 --	--	--	CROSBY	22100
1557	8/10/1959 --	--	--	LITTLE	20400
1556	8/3/1959 --	--	--	LITTLE	21700
1555	7/27/1959 --	--	--	STOCKERT	20900
1554	7/20/1959 --	--	--	STOCKERT	21300
1553	7/13/1959 --	--	--	STOCK/SH	21400
1552	7/6/1959 --	--	--	LITTLE	20500
1551	6/29/1959 --	--	--	LITTLE	21300
1550	6/22/1959 --	--	--	CROSBY	22200
1549	6/15/1959 --	--	--	SHJEFLO	21400
1548	6/8/1959 --	--	--	LENO	20600
1547	6/1/1959 --	--	--	BROSTROM	21100
1546	5/25/1959 --	--	--	SHJEFLO	21200
1545	5/18/1959 --	--	--	SHJEFLO	20400
1544	5/11/1959 --	--	--	CROSBY	20200
1543	5/4/1959 --	--	--	SHJEFLO	20900
1542	4/27/1959 --	--	--	CROSBY	14800
1541	4/20/1959 --	--	--	CROSBY	14700
1540	4/13/1959 --	--	--	EASTMAN	21000
1539	4/6/1959 --	--	--	BROSTROM	18600
1538	3/30/1959 --	--	--	BROSTROM	15000
1537	3/23/1959 --	--	--	BROS/KRE	18400
1536	3/16/1959 --	--	--	CROSBY	16800
1535	3/9/1959 --	--	--	CROS/KRE	13200
1534	3/2/1959 --	--	--	BROSTROM	16900
1533	2/24/1959 --	--	--	BROSTROM	17000
1532	2/16/1959 --	--	--	SHJ/KREB	16200
1531	2/9/1959 --	--	--	SHJ/KREB	16500
1530	2/2/1959 --	--	--	BROSTROM	15600
1529	1/26/1959 --	--	--	BROSTROM	13600
1528	1/19/1959 --	--	--	EAST/BRO	14400
1527	1/12/1959 --	--	--	BROSTROM	16200
1526	1/5/1959 --	--	--	BROS/KRE	8500
1525	12/29/1958 --	--	--	BROS/KRE	14400
1524	12/22/1958 --	--	--	CROS/EAS	16100
1523	12/15/1958 --	--	--	CROS/KRE	15600
1522	12/8/1958 --	--	--	EAST/CRO	14700
1521	11/24/1958 --	--	--	EASTMAN	12600
1520	11/17/1958 --	--	--	BROS/EAS	18100
1519	11/10/1958 --	--	--	CROSBY	19700
1518	11/3/1958 --	--	--	LITTLE	18700
1517	10/27/1958 --	--	--	BROSTROM	21500
1516	10/20/1958 --	--	--	LITTLE	20700
1515	10/13/1958 --	--	--	LITTLE	19100

1514	10/6/1958 --	--	--	EASTMAN	17800
1513	9/29/1958 --	--	--	STULLKEN	27800
1512	9/22/1958 --	--	--	STULLKEN	29400
1511	9/15/1958 --	--	--	STUL/SHJ	29700
1510	9/8/1958 --	--	--	SHJEFLO	29800
1509	9/2/1958 --	--	--	BROSTROM	30000
1508	8/26/1958 --	--	--	LITTLE	28600
1507	8/18/1958 --	--	--	LENO	20700
1506	8/15/1958 --	--	--	LENO	16600
1505	8/11/1958 --	--	--	LENO	6290
1504	8/4/1958 --	--	--	CROSBY	6320
1503	8/1/1958 --	--	--	STENSTAD	6460
1502	7/30/1958 --	--	--	STENSTAD	6430
1501	7/28/1958 --	--	--	LITTLE	5490
1500	7/24/1958 --	--	--	LITT/LEN	11500
1499	7/21/1958 --	--	--	LENO	13600
1498	7/15/1958 --	--	--	LENO	14300
1497	7/7/1958 --	--	--	LENO	15100
1496	7/3/1958 --	--	--	BROSTROM	23300
1495	6/30/1958 --	--	--	STENSTAD	31400
1494	6/25/1958 --	--	--	LENO	30800
1493	6/20/1958 --	--	--	LENO	31200
1492	6/16/1958 --	--	--	LENO	31700
1491	6/11/1958 --	--	--	STENSTAD	30300
1490	6/5/1958 --	--	--	LENO	24700
1489	6/2/1958 --	--	--	LENO	21800
1488	5/28/1958 --	--	--	LENO	18100
1487	5/23/1958 --	--	--	LENO	20900
1486	5/19/1958 --	--	--	LENO	21900
1485	5/14/1958 --	--	--	LENO	21600
1484	5/9/1958 --	--	--	CROSBY	20800
1483	5/5/1958 --	--	--	LENO	21700
1482	4/30/1958 --	--	--	LENO	21700
1481	4/25/1958 --	--	--	LENO	20000
1480	4/21/1958 --	--	--	LENO	20500
1479	4/16/1958 --	--	--	BROSTROM	16200
1478	4/11/1958 --	--	--	LENO	16800
1477	4/7/1958 --	--	--	CROSBY	20500
1476	4/2/1958 --	--	--	ERSKINE	20200
1475	3/31/1958 --	--	--	EASTMAN	18200
1474	3/25/1958 --	--	--	SHJEFLO	15300
1473	3/17/1958 --	--	--	LENO	13600
1472	3/10/1958 --	--	--	SHJEFLO	18100
1471	2/28/1958 --	--	--	SHJ/BROS	7910
1470	2/17/1958 --	--	--	BROS/LEN	10400
1469	2/7/1958 --	--	--	BROS/LEN	13200
1468	1/29/1958 --	--	--	STENS/CR	14600

1467	1/24/1958 --	--	--	LENO/BRO	13900
1466	1/16/1958 --	--	--	EAST/LEN	15600
1465	1/9/1958 --	--	--	LENO/BRO	15500
1464	1/6/1958 --	--	--	CROS/LEN	9700
1463	12/23/1957 --	--	--	BROSTROM	11700
1462	12/19/1957 --	--	--	STENSTAD	11900
1461	12/16/1957 --	--	--	CROSBY	9570
1460	12/13/1957 --	--	--	LENO	13500
1459	12/6/1957 --	--	--	BROSTROM	10400
1458	12/2/1957 --	--	--	BROSTROM	10400
1457	11/27/1957 --	--	--	LENO	10900
1456	11/22/1957 --	--	--	LENO	11900
1455	11/18/1957 --	--	--	LENO	8070
1454	11/13/1957 --	--	--	LENO	7860
1453	11/8/1957 --	--	--	CROSBY	9620
1452	11/4/1957 --	--	--	SHJEFLO	9360
1451	10/30/1957 --	--	--	LENO	15200
1450	10/25/1957 --	--	--	LENO	12500
1449	10/21/1957 --	--	--	LENO	16000
1448	10/16/1957 --	--	--	LENO	14700
1447	10/11/1957 --	--	--	LENO	17100
1446	10/7/1957 --	--	--	LENO	14100
1445	10/2/1957 --	--	--	LENO	11600
1444	9/27/1957 --	--	--	SHJEFLO	11300
1443	9/23/1957 --	--	--	SHJEFLO	17500
1442	9/18/1957 --	--	--	STENSTAD	21600
1441	9/13/1957 --	--	--	LENO	14600
1440	9/9/1957 --	--	--	LENO	16800
1439	9/4/1957 --	--	--	STENSTAD	15700
1438	8/30/1957 --	--	--	BROSTROM	19200
1437	8/26/1957 --	--	--	BROSTROM	25300
1436	8/21/1957 --	--	--	BROS/WHI	25200
1435	8/16/1957 --	--	--	LENO	24400
1434	8/12/1957 --	--	--	LENO	22100
1433	8/7/1957 --	--	--	STENSTAD	21300
1432	8/2/1957 --	--	--	LENO	20100
1431	7/29/1957 --	--	--	LENO	15500
1430	7/25/1957 --	--	--	LENO	18400
1429	7/19/1957 --	--	--	LENO	16300
1428	7/15/1957 --	--	--	LENO	16300
1427	7/10/1957 --	--	--	ELLENBEC	15900
1426	7/3/1957 --	--	--	SHJEFLO	16200
1425	6/28/1957 --	--	--	BROSTROM	13100
1424	6/24/1957 --	--	--	BROSTROM	15400
1423	6/19/1957 --	--	--	BROSTROM	15800
1422	6/14/1957 --	--	--	SHJEFLO	18600
1421	6/10/1957 --	--	--	SHJEFLO	11800

1420	6/5/1957 --	--	--	LENO/SHJ	9450
1419	5/31/1957 --	--	--	ELLENBEC	13200
1418	5/27/1957 --	--	--	ELLENBEC	20000
1417	5/22/1957 --	--	--	SHJEFLO	24000
1416	5/17/1957 --	--	--	EAST/LEN	23500
1415	5/13/1957 --	--	--	ELLENBEC	25900
1414	5/9/1957 --	--	--	CROS/LEN	20300
1413	5/3/1957 --	--	--	ELLENBEC	15900
1412	4/29/1957 --	--	--	ELLENBEC	12700
1411	4/24/1957 --	--	--	ELLENBEC	16300
1410	4/19/1957 --	--	--	EASTMAN	20900
1409	4/15/1957 --	--	--	ELLENBEC	19500
1408	4/10/1957 --	--	--	EASTMAN	19600
1407	4/5/1957 --	--	--	ELLENBEC	18900
1406	4/1/1957 --	--	--	SHJEFLO	13100
1405	3/28/1957 --	--	--	SHJEFLO	13100
1404	3/26/1957 --	--	--	SHJEFLO	12200
1403	3/21/1957 --	--	--	SHJEFLO	11500
1402	3/13/1957 --	--	--	BROS/ELL	10300
1401	3/6/1957 --	--	--	SHJEFLO	13500
1400	2/28/1957 --	--	--	CROSBY	14400
1399	2/21/1957 --	--	--	BROSTROM	13000
1398	2/13/1957 --	--	--	EASTMAN	14000
1397	2/5/1957 --	--	--	ELLB/EAS	12800
1396	1/25/1957 --	--	--	BROS/ELL	11400
1395	1/16/1957 --	--	--	CROSBY	9070
1394	1/7/1957 --	--	--	CROSBY	11600
1393	12/28/1956 --	--	--	CROSBY	10100
1392	12/20/1956 --	--	--	CROSBY	11400
1391	12/13/1956 --	--	--	BROS/ELL	6510
1390	11/30/1956 --	--	--	ELLENBEC	14900
1389	11/26/1956 --	--	--	ELLENBEC	13400
1388	11/21/1956 --	--	--	ELLENBEC	14100
1387	11/15/1956 --	--	--	ELLENBEC	12000
1386	11/13/1956 --	--	--	ELLENBEC	10300
1385	11/7/1956 --	--	--	ELLENBEC	17400
1384	11/2/1956 --	--	--	ELLENBEC	16700
1383	10/29/1956 --	--	--	ELLENBEC	15900
1382	10/24/1956 --	--	--	ELLENBEC	16200
1381	10/19/1956 --	--	--	ELLENBEC	14700
1380	10/15/1956 --	--	--	ELLENBEC	13800
1379	10/10/1956 --	--	--	ELLENBEC	13700
1378	10/5/1956 --	--	--	ELLENBEC	14600
1377	10/1/1956 --	--	--	ELLENBEC	14700
1376	9/26/1956 --	--	--	ELLENBEC	16600
1375	9/21/1956 --	--	--	ELLENBEC	18000
1374	9/17/1956 --	--	--	ELLENBEC	22000

1373	9/12/1956 --	--	--	ELLENBEC	22000
1372	9/7/1956 --	--	--	ELLENBEC	21700
1371	9/4/1956 --	--	--	BROSTROM	19100
1370	8/29/1956 --	--	--	ELLENBEC	23500
1369	8/24/1956 --	--	--	ELLENBEC	24500
1368	8/20/1956 --	--	--	ELLENBEC	27000
1367	8/15/1956 --	--	--	ELLENBEC	30100
1366	8/10/1956 --	--	--	ELLENBEC	29800
1365	8/6/1956 --	--	--	ELLENBEC	29300
1364	8/1/1956 --	--	--	ELLENBEC	28700
1363	7/27/1956 --	--	--	ELLENBEC	29400
1362	7/23/1956 --	--	--	ELLENBEC	28200
1361	7/18/1956 --	--	--	ELLENBEC	29000
1360	7/13/1956 --	--	--	ELLENBEC	29600
1359	7/9/1956 --	--	--	ELLENBEC	30600
1358	7/5/1956 --	--	--	ELLENBEC	28800
1357	6/29/1956 --	--	--	ELLENBEC	30300
1356	6/26/1956 --	--	--	ELLENBEC	34300
1355	6/20/1956 --	--	--	BROSTROM	34800
1354	6/15/1956 --	--	--	SHJEFLO	32700
1353	6/11/1956 --	--	--	SHJEFLO	33000
1352	6/6/1956 --	--	--	ELLENBEC	29800
1351	6/1/1956 --	--	--	ELLENBEC	29600
1350	5/28/1956 --	--	--	ELLENBEC	29100
1349	5/23/1956 --	--	--	BROSTROM	25800
1348	5/18/1956 --	--	--	ELLENBEC	28100
1347	5/14/1956 --	--	--	ELLENBEC	28800
1346	5/9/1956 --	--	--	SHJEFLO	27900
1345	5/4/1956 --	--	--	ELLENBEC	27700
1344	4/30/1956 --	--	--	ELLENBEC	22900
1343	4/25/1956 --	--	--	ELLENBEC	25700
1342	4/20/1956 --	--	--	SHJ/ELLB	23300
1341	4/16/1956 --	--	--	ELLB/BRO	25000
1340	4/11/1956 --	--	--	ELLB/BRO	26900
1339	4/6/1956 --	--	--	ELLB/BRO	26100
1338	4/4/1956 --	--	--	ERSKINE	25200
1337	3/19/1956 --	--	--	EAST/ELL	8310
1336	3/9/1956 --	--	--	EASTMAN	6210
1335	3/1/1956 --	--	--	BROSTROM	5970
1334	2/20/1956 --	--	--	BROSTROM	5990
1333	2/15/1956 --	--	--	EAST/ELL	4140
1332	2/6/1956 --	--	--	ELLB/BRO	5760
1331	1/27/1956 --	--	--	EASTMAN	7490
1330	1/18/1956 --	--	--	BROSTROM	7410
1329	1/9/1956 --	--	--	BROSTROM	9120
1328	12/30/1955 --	--	--	SHJ/BROS	10900
1327	12/21/1955 --	--	--	CROSBY	9250

1326	12/15/1955	--	--	BROSTROM	9150
1325	12/9/1955	--	--	EASTMAN	9340
1324	12/5/1955	--	--	EASTMAN	9560
1323	11/21/1955	--	--	CROS/FRI	10600
1322	11/9/1955	--	--	BROSTROM	20200
1321	11/4/1955	--	--	FRITZ	29600
1320	10/31/1955	--	--	CROSBY	32900
1319	10/26/1955	--	--	CROSBY	33100
1318	10/21/1955	--	--	CROSBY	32500
1317	10/17/1955	--	--	FRITZ/CR	33600
1316	10/12/1955	--	--	BROS/FRI	29800
1315	10/7/1955	--	--	BROSTROM	31600
1314	10/3/1955	--	--	BROSTROM	32200
1313	9/28/1955	--	--	CROSBY	31400
1312	9/23/1955	--	--	BROSTROM	32600
1311	9/20/1955	--	--	SHJEFLO	32500
1310	9/14/1955	--	--	SHJEFLO	26300
1309	9/9/1955	--	--	SHJEFLO	27700
1308	9/6/1955	--	--	SHJEFLO	28700
1307	8/31/1955	--	--	SHJEFLO	28800
1306	8/26/1955	--	--	GLUM	28400
1305	8/23/1955	--	--	GLUM	29300
1304	8/17/1955	--	--	GLUM	27500
1303	8/12/1955	--	--	GLUM	19900
1302	8/8/1955	--	--	GLUM	19200
1301	8/3/1955	--	--	GLUM	19800
1300	7/29/1955	--	--	SHJEFLO	19500
1299	7/25/1955	--	--	GLUM	24100
1298	7/20/1955	--	--	SHJEFLO	31000
1297	7/15/1955	--	--	GLUM	29900
1296	7/11/1955	--	--	GLUM	34700
1295	7/6/1955	--	--	BROSTROM	30600
1294	7/1/1955	--	--	BROSTROM	27700
1293	6/27/1955	--	--	SHJEFLO	31000
1292	6/22/1955	--	--	GLUM	25400
1291	6/17/1955	--	--	BROSTROM	18400
1290	6/13/1955	--	--	BROSTROM	27500
1289	6/8/1955	--	--	BROSTROM	16500
1288	6/3/1955	--	--	GLUM	22200
1287	5/31/1955	--	--	GLUM/SHJ	33500
1286	5/25/1955	--	--	SHJEFLO	44100
1285	5/20/1955	--	--	BROSTROM	46500
1284	5/16/1955	--	--	BROSTROM	45800
1283	5/11/1955	--	--	SHJEFLO	36400
1282	5/6/1955	--	--	SHJEFLO	30000
1281	5/2/1955	--	--	SHJEFLO	24400
1280	4/27/1955	--	--	BROSTROM	26400

1279	4/22/1955 --	--	--	BROSTROM	15900
1278	4/18/1955 --	--	--	BROSTROM	9800
1277	4/13/1955 --	--	--	BROSTROM	9330
1276	4/8/1955 --	--	--	BROSTROM	10100
1275	4/4/1955 --	--	--	SHJEFLO	9940
1274	3/26/1955 --	--	--	BROSTROM	4340
1273	3/15/1955 --	--	--	BROSTROM	6940
1272	3/7/1955 --	--	--	EASTMAN	5580
1271	2/25/1955 --	--	--	BROSTROM	6900
1270	2/16/1955 --	--	--	EASTMAN	8320
1269	2/11/1955 --	--	--	BROSTROM	5600
1268	2/7/1955 --	--	--	EASTMAN	7700
1267	2/2/1955 --	--	--	EASTMAN	6360
1266	1/28/1955 --	--	--	BROSTROM	5370
1265	1/19/1955 --	--	--	BROSTROM	5480
1264	1/14/1955 --	--	--	BROSTROM	5260
1263	1/6/1955 --	--	--	CROS/BRO	7910
1262	12/22/1954 --	--	--	BROSTROM	8300
1261	12/17/1954 --	--	--	BROS/EAS	8200
1260	12/14/1954 --	--	--	BROS/EAS	7600
1259	12/8/1954 --	--	--	CROSBY	7600
1258	12/3/1954 --	--	--	CROSBY	8660
1257	11/29/1954 --	--	--	CROSBY	8360
1256	11/24/1954 --	--	--	CROSBY	9550
1255	11/19/1954 --	--	--	CROSBY	10300
1254	11/15/1954 --	--	--	CROSBY	10200
1253	11/9/1954 --	--	--	CROSBY	13500
1252	11/5/1954 --	--	--	BROSTROM	15800
1251	11/1/1954 --	--	--	BROSTROM	15000
1250	10/28/1954 --	--	--	CROSBY	15600
1249	10/25/1954 --	--	--	CROSBY	20800
1248	10/22/1954 --	--	--	BROSTROM	30000
1247	10/18/1954 --	--	--	BROSTROM	30900
1246	10/13/1954 --	--	--	BROSTROM	30700
1245	10/8/1954 --	--	--	BROSTROM	31900
1244	10/4/1954 --	--	--	BROSTROM	37400
1243	9/29/1954 --	--	--	EASTMAN	37000
1242	9/24/1954 --	--	--	EASTMAN	37700
1241	9/20/1954 --	--	--	EASTMAN	40400
1240	9/15/1954 --	--	--	EASTMAN	38200
1239	9/10/1954 --	--	--	BROSTROM	38200
1238	9/7/1954 --	--	--	BROSTROM	38900
1237	9/1/1954 --	--	--	BROSTROM	39000
1236	8/27/1954 --	--	--	BROSTROM	40100
1235	8/23/1954 --	--	--	BROSTROM	39100
1234	8/18/1954 --	--	--	BROSTROM	40600
1233	8/13/1954 --	--	--	BROSTROM	39700

1232	8/9/1954 --	--	--	BROSTROM	39700
1231	8/4/1954 --	--	--	BROSTROM	38800
1230	7/30/1954 --	--	--	EASTMAN	40300
1229	7/26/1954 --	--	--	MONROE	39200
1228	7/21/1954 --	--	--	MONROE	36000
1227	7/16/1954 --	--	--	BROSTROM	33200
1226	7/12/1954 --	--	--	BROSTROM	30200
1225	7/7/1954 --	--	--	BROSTROM	25700
1224	7/2/1954 --	--	--	BROSTROM	13800
1223	6/28/1954 --	--	--	BROSTROM	13300
1222	6/23/1954 --	--	--	MONR/LEE	10500
1221	6/18/1954 --	--	--	MONROE	11500
1220	6/14/1954 --	--	--	BROSTROM	14700
1219	6/9/1954 --	--	--	BROSTROM	22800
1218	6/4/1954 --	--	--	BROSTROM	22700
1217	6/1/1954 --	--	--	BROSTROM	25500
1216	5/26/1954 --	--	--	BROSTROM	25800
1215	5/21/1954 --	--	--	BROSTROM	24500
1214	5/17/1954 --	--	--	BROSTROM	23500
1213	5/12/1954 --	--	--	BROSTROM	23200
1212	5/7/1954 --	--	--	BROSTROM	26300
1211	5/3/1954 --	--	--	BROSTROM	27600
1210	4/28/1954 --	--	--	BROSTROM	28500
1209	4/23/1954 --	--	--	BROSTROM	25900
1208	4/19/1954 --	--	--	BROSTROM	26200
1207	4/14/1954 --	--	--	BROSTROM	20100
1206	4/9/1954 --	--	--	CABE	22400
1205	4/8/1954 --	--	--	MCCA/POW	18700
1204	4/7/1954 --	--	--	MCCA/POW	26700
1203	3/8/1954 --	--	--	BROSTROM	17700
1202	3/5/1954 --	--	--	EASTMAN	16900
1201	2/19/1954 --	--	--	EAST/BRO	8990
1200	2/16/1954 --	--	--	EASTMAN	8980
1199	2/9/1954 --	--	--	BROSTROM	9040
1198	2/4/1954 --	--	--	BROSTROM	9230
1197	1/26/1954 --	--	--	BROSTROM	7780
1196	1/22/1954 --	--	--	BROSTROM	6180
1195	1/12/1954 --	--	--	EASTMAN	9170
1194	1/6/1954 --	--	--	BROSTROM	7180
1193	12/31/1953 --	--	--	BROS/CRO	6100
1192	12/28/1953 --	--	--	BROS/CRO	7520
1191	12/22/1953 --	--	--	CROS/MCC	6500
1190	12/7/1953 --	--	--	CROS/POW	11700
1189	11/30/1953 --	--	--	MONROE	15400
1188	11/25/1953 --	--	--	BROSTROM	15500
1187	11/20/1953 --	--	--	BROSTROM	16200
1186	11/16/1953 --	--	--	BROSTROM	18700

1185	11/10/1953	--	--	BROSTROM	28000
1184	11/6/1953	--	--	PIKE	28600
1183	11/3/1953	--	--	CROSBY	33800
1182	10/29/1953	--	--	BROSTROM	36700
1181	10/23/1953	--	--	BROSTROM	32200
1180	10/19/1953	--	--	BROSTROM	32000
1179	10/14/1953	--	--	BROSTROM	31400
1178	10/9/1953	--	--	BROSTROM	33700
1177	10/5/1953	--	--	BROSTROM	34100
1176	9/30/1953	--	--	BROSTROM	30000
1175	9/25/1953	--	--	BROSTROM	30600
1174	9/21/1953	--	--	BROSTROM	29400
1173	9/16/1953	--	--	BROSTROM	28300
1172	9/11/1953	--	--	MONROE	31300
1171	9/7/1953	--	--	MONROE	28600
1170	9/2/1953	--	--	MONROE	26500
1169	8/28/1953	--	--	BROSTROM	26500
1168	8/24/1953	--	--	BROSTROM	28500
1167	8/19/1953	--	--	BROSTROM	24600
1166	8/14/1953	--	--	PIKE	28500
1165	8/14/1953	--	--	MONROE	28200
1164	8/10/1953	--	--	MONROE	30500
1163	8/10/1953	--	--	PIKE	30100
1162	8/5/1953	--	--	BROSTROM	26800
1161	7/31/1953	--	--	BROSTROM	26800
1160	7/27/1953	--	--	BROSTROM	26700
1159	7/22/1953	--	--	BROSTROM	26900
1158	7/17/1953	--	--	BROSTROM	26600
1157	7/13/1953	--	--	BROSTROM	29100
1156	7/8/1953	--	--	BROSTROM	33000
1155	7/3/1953	--	--	SCHNE/PI	39100
1154	6/29/1953	--	--	BROSTROM	48800
1153	6/26/1953	--	--	CROS/SCH	70100
1152	6/24/1953	--	--	CROS/SCH	80000
1151	6/19/1953	--	--	EASTMAN	64100
1150	6/15/1953	--	--	BROSTROM	42900
1149	6/10/1953	--	--	BROSTROM	49100
1148	6/5/1953	--	--	CROSBY	52600
1147	5/30/1953	--	--	CABE	27800
1146	5/27/1953	--	--	EASTMAN	21300
1145	5/22/1953	--	--	CROSBY	20700
1144	5/18/1953	--	--	CROSBY	25000
1143	5/13/1953	--	--	CROSBY	23600
1142	5/8/1953	--	--	BROSTROM	23100
1141	5/4/1953	--	--	BROSTROM	23500
1140	4/29/1953	--	--	BROSTROM	20400
1139	4/24/1953	--	--	BROSTROM	13300

1138	4/20/1953	--	--	BROSTROM	12000
1137	4/17/1953	--	--	EASTMAN	14000
1136	4/13/1953	--	--	MONROE	14000
1135	4/9/1953	--	--	ERSKINE	15500
1134	4/7/1953	--	--	CABE	38600
1133	4/3/1953	--	--	MONROE	18400
1132	4/1/1953	--	--	MONROE	17200
1131	3/31/1953	--	--	MONROE	18100
1130	3/19/1953	--	--	PIKE	13200
1129	3/12/1953	--	--	BROSTROM	8920
1128	3/3/1953	--	--	EASTMAN	9050
1127	2/20/1953	--	--	EASTMAN	11000
1126	2/13/1953	--	--	BROSTROM	12300
1125	2/4/1953	--	--	EASTMAN	12500
1124	1/26/1953	--	--	BROSTROM	11400
1123	1/16/1953	--	--	CROSBY	10700
1122	1/8/1953	--	--	EASTMAN	10700
1121	12/29/1952	--	--	EAST/BRO	12100
1120	12/23/1952	--	--	EAST/BRO	11300
1119	12/19/1952	--	--	EAST/BRO	13300
1118	12/15/1952	--	--	EAST/PIK	13200
1117	12/11/1952	--	--	CROS/EAS	9460
1116	12/5/1952	--	--	EAST/BRO	5230
1115	12/1/1952	--	--	MONR/MCC	6200
1114	11/21/1952	--	--	TJADEN	17300
1113	11/18/1952	--	--	CROSBY	17400
1112	11/13/1952	--	--	CROSBY	18900
1111	11/7/1952	--	--	TJADEN	27100
1110	11/2/1952	--	--	TJADEN	25700
1109	10/29/1952	--	--	TJADEN	26800
1108	10/24/1952	--	--	PIKE	27400
1107	10/19/1952	--	--	TJADEN	29800
1106	10/15/1952	--	--	TJADEN	30500
1105	10/10/1952	--	--	TJADEN	30900
1104	10/6/1952	--	--	TJADEN	32200
1103	10/1/1952	--	--	TJADEN	28900
1102	9/26/1952	--	--	TJADEN	28500
1101	9/23/1952	--	--	TJADEN	29500
1100	9/17/1952	--	--	TJADEN	28700
1099	9/12/1952	--	--	TJADEN	28200
1098	9/8/1952	--	--	TJADEN	26600
1097	9/3/1952	--	--	TJADEN	28700
1096	8/29/1952	--	--	TJADEN	28600
1095	8/25/1952	--	--	TJADEN	27800
1094	8/20/1952	--	--	TJADEN	28500
1093	8/15/1952	--	--	CROS/TJA	32300
1092	8/11/1952	--	--	CROS/TJA	29400

1091	8/6/1952 --	--	--	PIKE	26450
1090	8/1/1952 --	--	--	PIKE	23900
1089	7/28/1952 --	--	--	PIKE	21750
1088	7/23/1952 --	--	--	CROSBY	27000
1087	7/18/1952 --	--	--	PIKE	18000
1086	7/14/1952 --	--	--	PIKE	20800
1085	7/8/1952 --	--	--	PIKE	26700
1084	7/3/1952 --	--	--	CROSBY	29300
1083	6/30/1952 --	--	--	CROSBY	27600
1082	6/25/1952 --	--	--	PIKE	27500
1081	6/20/1952 --	--	--	GLUM	37600
1080	6/16/1952 --	--	--	GLUM	55300
1079	6/11/1952 --	--	--	GLUM	51000
1078	6/6/1952 --	--	--	GLUM	42900
1077	6/2/1952 --	--	--	GLUM	45700
1076	5/30/1952 --	--	--	GLUM	44900
1075	5/23/1952 --	--	--	PIKE	32100
1074	5/20/1952 --	--	--	PIKE	27000
1073	5/15/1952 --	--	--	MONROE	35760
1072	5/9/1952 --	--	--	EASTMAN	44700
1071	5/5/1952 --	--	--	EASTMAN	47500
1070	4/30/1952 --	--	--	EASTMAN	38800
1069	4/25/1952 --	--	--	EASTMAN	52300
1068	4/21/1952 --	--	--	EASTMAN	56200
1067	4/18/1952 --	--	--	EASTMAN	54200
1066	4/16/1952 --	--	--	MONROE	60000
1065	4/14/1952 --	--	--	MONROE	71900
1064	4/11/1952 --	--	--	MONR/GAM	146300
1063	4/10/1952 --	--	--	MONR/GAM	157600
1062	4/9/1952 --	--	--	MONR/GAM	176400
1061	4/8/1952 --	--	--	SESS/MON	283200
1060	4/7/1952 --	--	--	SESS/MON	360000
1059	4/6/1952 --	--	--	ERSKINE	439000
1058	4/6/1952 --	--	--	MONR/SES	75000
1057	4/5/1952 --	--	--	ERSK/SES	59900
1056	4/1/1952 --	--	--	PIKE	14500
1055	3/28/1952 --	--	--	MONR/EAS	11400
1054	3/19/1952 --	--	--	CROSBY	11100
1053	3/10/1952 --	--	--	EASTMAN	12250
1052	3/1/1952 --	--	--	EASTMAN	12550
1051	2/21/1952 --	--	--	CROSBY	18650
1050	2/11/1952 --	--	--	EASTMAN	19300
1049	1/30/1952 --	--	--	CROSBY	16200
1048	1/23/1952 --	--	--	EASTMAN	16440
1047	1/11/1952 --	--	--	PIKE/EAS	17250
1046	1/3/1952 --	--	--	PIKE/CRO	11200
1045	12/26/1951 --	--	--	PIKE/SES	5360

1044	12/21/1951 --	--	--	PIKE/SES	5230
1043	12/3/1951 --	--	--	PIKE	23150
1042	11/16/1951 --	--	--	CROSBY	37700
1041	11/13/1951 --	--	--	CROSBY	37700
1040	10/31/1951 --	--	--	PIKE	38800
1039	10/26/1951 --	--	--	DORMAN	39200
1038	10/22/1951 --	--	--	DORMAN	39000
1037	10/17/1951 --	--	--	DORMAN	40400
1036	10/11/1951 --	--	--	PIKE	37500
1035	10/5/1951 --	--	--	DORMAN	38700
1034	10/1/1951 --	--	--	DORMAN	39800
1033	9/26/1951 --	--	--	DORMAN	36900
1032	9/21/1951 --	--	--	DORMAN	33300
1031	9/17/1951 --	--	--	CABE	36400
1030	9/11/1951 --	--	--	DORMAN	36600
1029	9/6/1951 --	--	--	PIKE	40700
1028	9/1/1951 --	--	--	PIKE	38400
1027	8/27/1951 --	--	--	PIKE	34800
1026	8/21/1951 --	--	--	CROSBY	39000
1025	8/16/1951 --	--	--	CROSBY	42400
1024	8/10/1951 --	--	--	CABE	34000
1023	8/6/1951 --	--	--	CABE	36600
1022	7/31/1951 --	--	--	SESSUMS	32600
1021	7/26/1951 --	--	--	SESSUMS	33300
1020	7/21/1951 --	--	--	CABE	32900
1019	7/16/1951 --	--	--	CABE	32500
1018	7/11/1951 --	--	--	CABE	34600
1017	7/6/1951 --	--	--	PIKE	32100
1016	6/30/1951 --	--	--	PIKE	38800
1015	6/25/1951 --	--	--	PIKE	52100
1014	6/19/1951 --	--	--	CABE	28100
1013	6/15/1951 --	--	--	MCCA/WEL	29400
1012	6/11/1951 --	--	--	MCCA/SCH	34300
1011	6/6/1951 --	--	--	CABE	52900
1010	6/1/1951 --	--	--	PIKE	42800
1009	5/28/1951 --	--	--	CABE	36200
1008	5/21/1951 --	--	--	PIKE	35500
1007	5/16/1951 --	--	--	CABE	30700
1006	5/11/1951 --	--	--	PIKE	27800
1005	5/7/1951 --	--	--	PIKE	32600
1004	5/1/1951 --	--	--	SESSUMS	26000
1003	4/25/1951 --	--	--	SESSUMS	27600
1002	4/20/1951 --	--	--	SESSUMS	30300
1001	4/16/1951 --	--	--	EASTMAN	36900
1000	4/10/1951 --	--	--	EASTMAN	70700
999	4/6/1951 --	--	--	EASTMAN	65800
998	4/5/1951 --	--	--	SESS/EAS	57200

997	3/27/1951 --	--	--	CROSBY	13500
996	3/21/1951 --	--	--	EASTMAN	9020
995	3/13/1951 --	--	--	EASTMAN	11400
994	3/2/1951 --	--	--	EASTMAN	15800
993	2/19/1951 --	--	--	BAUR/CRO	14200
992	2/7/1951 --	--	--	BAUR/CRO	11300
991	1/25/1951 --	--	--	CROSBY	13400
990	1/17/1951 --	--	--	CROS/PIK	12500
989	1/8/1951 --	--	--	CROSBY	16100
988	12/27/1950 --	--	--	PIKE/BAU	16500
987	12/19/1950 --	--	--	CROS/BAU	12500
986	12/11/1950 --	--	--	PIKE/CRO	13800
985	12/1/1950 --	--	--	PIKE/CRO	7790
984	11/28/1950 --	--	--	MCCA/PIK	6800
983	11/15/1950 --	--	--	CROSBY	25100
982	11/10/1950 --	--	--	CROS/MCC	32800
981	11/6/1950 --	--	--	PIKE	37800
980	11/1/1950 --	--	--	PIKE	32400
979	10/27/1950 --	--	--	CROSBY	32600
978	10/24/1950 --	--	--	CROSBY	34800
977	10/17/1950 --	--	--	CROSBY	28500
976	10/11/1950 --	--	--	CROSBY	31600
975	10/6/1950 --	--	--	CROSBY	31200
974	10/2/1950 --	--	--	CROSBY	28500
973	9/27/1950 --	--	--	CROSBY	28300
972	9/22/1950 --	--	--	CROSBY	30700
971	9/18/1950 --	--	--	CROSBY	32400
970	9/11/1950 --	--	--	DORMAN	27600
969	9/6/1950 --	--	--	GABE	28000
968	9/1/1950 --	--	--	PIKE	29300
967	8/29/1950 --	--	--	PIKE	29400
966	8/23/1950 --	--	--	PIKE	28600
965	8/18/1950 --	--	--	CROSBY	32700
964	8/14/1950 --	--	--	CROSBY	33000
963	8/8/1950 --	--	--	CROSBY	28600
962	8/3/1950 --	--	--	CROSBY	26500
961	7/28/1950 --	--	--	CROS/PIK	25500
960	7/24/1950 --	--	--	PIKE	28700
959	7/19/1950 --	--	--	PIKE/CRO	38800
958	7/14/1950 --	--	--	PIKE	44300
957	7/11/1950 --	--	--	PIKE	47000
956	7/5/1950 --	--	--	PIKE	39200
955	6/30/1950 --	--	--	PIKE	52500
954	6/27/1950 --	--	--	PIKE	57300
953	6/22/1950 --	--	--	PIKE	60000
952	6/16/1950 --	--	--	CABE	34100
951	6/13/1950 --	--	--	SESSUMS	52400

950	6/6/1950 --	--	--	PIKE	28200
949	6/2/1950 --	--	--	DORMAN	26900
948	5/29/1950 --	--	--	DORMAN	21600
947	5/23/1950 --	--	--	DORMAN	22600
946	5/19/1950 --	--	--	DORMAN	24300
945	5/13/1950 --	--	--	DORMAN	35900
944	5/9/1950 --	--	--	DORMAN	34500
943	5/3/1950 --	--	--	EASTMAN	21500
942	4/28/1950 --	--	--	DORMAN	34200
941	4/22/1950 --	--	--	DORMAN	46100
940	4/20/1950 --	--	--	ERSKINE	93100
939	4/18/1950 --	--	--	ERSKINE	127000
938	4/16/1950 --	--	--	ERSKINE	61400
937	3/17/1950 --	--	--	EASTMAN	13200
936	3/10/1950 --	--	--	EASTMAN	10200
935	3/3/1950 --	--	--	EASTMAN	9210
934	2/20/1950 --	--	--	EASTMAN	8480
933	2/9/1950 --	--	--	EASTMAN	8350
932	1/26/1950 --	--	--	EASTMAN	8080
931	1/19/1950 --	--	--	EASTMAN	7480
930	1/9/1950 --	--	--	EASTMAN	9850
929	12/30/1949 --	--	--	DORM/GLU	8490
928	12/20/1949 --	--	--	EASTMAN	4840
927	12/15/1949 --	--	--	EASTMAN	3690
926	12/14/1949 --	--	--	SESS/EAS	3410
925	12/6/1949 --	--	--	SESS/MCC	12000
924	11/28/1949 --	--	--	DORMAN	13700
923	11/22/1949 --	--	--	DORMAN	13900
922	11/17/1949 --	--	--	DORMAN	13800
921	11/12/1949 --	--	--	DORMAN	14500
920	11/7/1949 --	--	--	DORMAN	16000
919	11/2/1949 --	--	--	DORMAN	20600
918	10/28/1949 --	--	--	DORMAN	25500
917	10/24/1949 --	--	--	DORMAN	28700
916	10/18/1949 --	--	--	DORMAN	25400
915	10/13/1949 --	--	--	DORMAN	26800
914	10/9/1949 --	--	--	DORMAN	24600
913	10/3/1949 --	--	--	DORMAN	25700
912	9/28/1949 --	--	--	DORMAN	25900
911	9/23/1949 --	--	--	DORMAN	25300
910	9/19/1949 --	--	--	DORMAN	26900
909	9/13/1949 --	--	--	DORMAN	27000
908	9/7/1949 --	--	--	PIKE	25800
907	9/2/1949 --	--	--	PIKE	24800
906	8/29/1949 --	--	--	PIKE	25400
905	8/24/1949 --	--	--	PIKE	26300
904	8/19/1949 --	--	--	PIKE	26800

903	8/15/1949 --	--	--	PIKE	25600
902	8/9/1949 --	--	--	PIKE	25200
901	8/4/1949 --	--	--	PIKE	26000
900	7/29/1949 --	--	--	PIKE	26400
899	7/25/1949 --	--	--	PIKE	27100
898	7/20/1949 --	--	--	PIKE	27800
897	7/15/1949 --	--	--	PIKE	28100
896	7/11/1949 --	--	--	PIKE	25400
895	7/5/1949 --	--	--	DORMAN	28800
894	6/29/1949 --	--	--	DORMAN	36600
893	6/24/1949 --	--	--	DORMAN	37700
892	6/20/1949 --	--	--	DORMAN	48600
891	6/14/1949 --	--	--	DORMAN	44400
890	6/10/1949 --	--	--	DORMAN	33900
889	6/6/1949 --	--	--	DORMAN	41300
888	5/31/1949 --	--	--	DORMAN	28200
887	5/26/1949 --	--	--	DORMAN	33900
886	5/20/1949 --	--	--	DORMAN	27500
885	5/16/1949 --	--	--	DORMAN	23900
884	5/10/1949 --	--	--	DORMAN	25400
883	5/6/1949 --	--	--	DORMAN	24700
882	4/30/1949 --	--	--	DORMAN	24300
881	4/25/1949 --	--	--	DORMAN	24600
880	4/19/1949 --	--	--	DORMAN	21800
879	4/14/1949 --	--	--	DORMAN	22000
878	4/11/1949 --	--	--	DORMAN	30200
877	4/8/1949 --	--	--	DORMAN	48000
876	4/6/1949 --	--	--	DORM/EAS	144000
875	4/4/1949 --	--	--	DORM/SES	117000
874	4/3/1949 --	--	--	LAROC/SE	112000
873	4/3/1949 --	--	--	DORM/SES	119000
872	3/23/1949 --	--	--	DORM/EAS	15100
871	3/16/1949 --	--	--	DORM/MCC	30000
870	3/11/1949 --	--	--	CABE	14100
869	3/4/1949 --	--	--	DORM/MCC	13000
868	2/25/1949 --	--	--	DORM/MCC	13100
867	2/16/1949 --	--	--	DORM/MCC	12500
866	2/8/1949 --	--	--	DORM/MCC	11600
865	1/26/1949 --	--	--	DORM/MCC	11700
864	1/14/1949 --	--	--	CABE	12400
863	1/7/1949 --	--	--	EAST/MCC	12800
862	12/23/1948 --	--	--	EAST/MCC	8650
861	12/14/1948 --	--	--	EAST/MCC	3990
860	11/26/1948 --	--	--	CABE	17000
859	11/23/1948 --	--	--	CABE	17900
858	11/17/1948 --	--	--	CABE	18300
857	11/12/1948 --	--	--	CABE	24600

856	11/8/1948 --	--	--	CABE	30600
855	11/3/1948 --	--	--	CABE	32500
854	10/29/1948 --	--	--	CABE	34600
853	10/25/1948 --	--	--	CABE	34100
852	10/18/1948 --	--	--	CABE	34700
851	10/13/1948 --	--	--	CABE	35100
850	10/8/1948 --	--	--	CABE	37100
849	10/2/1948 --	--	--	DORMAN	34500
848	9/27/1948 --	--	--	CABE	31200
847	9/21/1948 --	--	--	MCCA/DOR	32400
846	9/17/1948 --	--	--	PIKE	30100
845	9/13/1948 --	--	--	PIKE	28900
844	9/7/1948 --	--	--	PIKE	29200
843	9/2/1948 --	--	--	PIKE	30300
842	8/28/1948 --	--	--	GLUM	29500
841	8/23/1948 --	--	--	PIKE	34600
840	8/17/1948 --	--	--	PIKE	36800
839	8/12/1948 --	--	--	PIKE	40400
838	8/9/1948 --	--	--	PIKE	34800
837	8/2/1948 --	--	--	PIKE	36600
836	7/27/1948 --	--	--	PIKE	41100
835	7/22/1948 --	--	--	PIKE	52900
834	7/16/1948 --	--	--	PIKE	64400
833	7/12/1948 --	--	--	PIKE	50200
832	7/8/1948 --	--	--	PIKE	57600
831	7/2/1948 --	--	--	PIKE	64000
830	6/28/1948 --	--	--	PIKE	66200
829	6/22/1948 --	--	--	PIK/JE/S	72000
828	6/18/1948 --	--	--	SESS/PIK	64600
827	6/14/1948 --	--	--	GLUM	71800
826	6/7/1948 --	--	--	GLUM	71700
825	6/1/1948 --	--	--	DORMAN	51900
824	5/27/1948 --	--	--	DORMAN	56400
823	5/21/1948 --	--	--	GLUM	22600
822	5/17/1948 --	--	--	GLUM	25900
821	5/12/1948 --	--	--	GLUM	27700
820	5/7/1948 --	--	--	GLUM	27600
819	5/1/1948 --	--	--	GLUM	27800
818	4/26/1948 --	--	--	GLUM	34800
817	4/22/1948 --	--	--	GLUM	35000
816	4/14/1948 --	--	--	EASTMAN	26100
815	4/12/1948 --	--	--	EASTMAN	28000
814	3/18/1948 --	--	--	GLUM/DOR	13500
813	3/8/1948 --	--	--	EAS/SES/	16600
812	3/2/1948 --	--	--	EASTMAN	15100
811	2/20/1948 --	--	--	EASTMAN	8250
810	2/9/1948 --	--	--	EASTMAN	8500

809	1/29/1948 --	--	--	EASTMAN	8950
808	1/19/1948 --	--	--	EAST/JEN	10700
807	1/9/1948 --	--	--	GLUM	10800
806	12/29/1947 --	--	--	GLUM/EAS	13700
805	12/18/1947 --	--	--	EAST/GAB	9380
804	12/11/1947 --	--	--	SESS/EAS	11800
803	11/6/1947 --	--	--	GLUM	32800
802	10/31/1947 --	--	--	GLUM	35900
801	10/27/1947 --	--	--	GLUM	35200
800	10/21/1947 --	--	--	GLUM	34400
799	10/16/1947 --	--	--	GLUM	33200
798	10/11/1947 --	--	--	GLUM	35000
797	10/6/1947 --	--	--	GLUM	31900
796	10/1/1947 --	--	--	GLUM	33100
795	9/26/1947 --	--	--	GLUM	32800
794	9/20/1947 --	--	--	GLUM	34100
793	9/16/1947 --	--	--	GLUM	31200
792	9/12/1947 --	--	--	GLUM	31000
791	9/5/1947 --	--	--	GLUM	29000
790	9/1/1947 --	--	--	GLUM	30700
789	8/26/1947 --	--	--	GLUM	31700
788	8/21/1947 --	--	--	GLUM	36100
787	8/15/1947 --	--	--	GLUM	39100
786	8/11/1947 --	--	--	GLUM	42100
785	8/6/1947 --	--	--	GLUM	38000
784	8/1/1947 --	--	--	GLUM	36800
783	7/25/1947 --	--	--	GLUM	36800
782	7/21/1947 --	--	--	GLUM	40800
781	7/16/1947 --	--	--	GLUM	50100
780	7/11/1947 --	--	--	GLUM	51500
779	7/7/1947 --	--	--	GLUM	46300
778	7/3/1947 --	--	--	GLUM	64800
777	6/30/1947 --	--	--	GLUM	69300
776	6/26/1947 --	--	--	GLUM	91300
775	6/24/1947 --	--	--	GLUM	106500
774	6/16/1947 --	--	--	GLUM	59800
773	6/11/1947 --	--	--	GLUM	48000
772	6/6/1947 --	--	--	GLUM	35200
771	6/2/1947 --	--	--	GLUM	36800
770	5/26/1947 --	--	--	GLUM	41200
769	5/21/1947 --	--	--	DORMAN	41700
768	5/16/1947 --	--	--	DORMAN	60800
767	5/12/1947 --	--	--	DORMAN	48600
766	5/6/1947 --	--	--	DORMAN	31200
765	4/30/1947 --	--	--	BROWN	31500
764	4/25/1947 --	--	--	BROWN	32900
763	4/21/1947 --	--	--	BROWN	33800

762	4/16/1947 --	--	--	BROWN	49800
761	4/11/1947 --	--	--	BROWN	35000
760	4/7/1947 --	--	--	EASTMAN	38600
759	4/3/1947 --	--	--	EASTMAN	47300
758	4/2/1947 --	--	--	BROWN	48500
757	4/1/1947 --	--	--	BROWN	53300
756	3/31/1947 --	--	--	BROWN	66700
755	3/30/1947 --	--	--	EASTMAN	133000
754	3/29/1947 --	--	--	EASTMAN	242000
753	3/21/1947 --	--	--	BROWN	7760
752	3/18/1947 --	--	--	DORMAN	5780
751	3/11/1947 --	--	--	DORMAN	9240
750	3/7/1947 --	--	--	BROWN	9190
749	3/4/1947 --	--	--	RIKER	15300
748	2/26/1947 --	--	--	RIKER	16100
747	2/21/1947 --	--	--	BROWN	10900
746	2/19/1947 --	--	--	RIKER	8680
745	2/14/1947 --	--	--	EASTMAN	8080
744	2/10/1947 --	--	--	EASTMAN	8940
743	2/4/1947 --	--	--	EASTMAN	11700
742	1/27/1947 --	--	--	EASTMAN	9750
741	1/22/1947 --	--	--	EASTMAN	9930
740	1/16/1947 --	--	--	EASTMAN	8140
739	1/10/1947 --	--	--	EASTMAN	8340
738	1/6/1947 --	--	--	EASTMAN	10500
737	12/30/1946 --	--	--	EASTMAN	6970
736	12/26/1946 --	--	--	EASTMAN	5830
735	12/20/1946 --	--	--	EASTMAN	9910
734	12/17/1946 --	--	--	EASTMAN	10200
733	12/6/1946 --	--	--	POWELL	5930
732	12/2/1946 --	--	--	POWELL	4840
731	11/26/1946 --	--	--	CREER	3240
730	11/15/1946 --	--	--	RAAEN	13300
729	11/13/1946 --	--	--	EASTMAN	12100
728	11/8/1946 --	--	--	EASTMAN	15200
727	11/4/1946 --	--	--	POWELL	17700
726	10/30/1946 --	--	--	POWELL	20900
725	10/25/1946 --	--	--	POWELL	20700
724	10/21/1946 --	--	--	POWELL	23700
723	10/16/1946 --	--	--	POWELL	25200
722	10/11/1946 --	--	--	POWELL	39100
721	10/7/1946 --	--	--	POWELL	23500
720	9/30/1946 --	--	--	POWELL	22500
719	9/25/1946 --	--	--	POWELL	26400
718	9/20/1946 --	--	--	POWELL	24300
717	9/17/1946 --	--	--	POWELL	23700
716	9/10/1946 --	--	--	POWELL	24700

715	9/4/1946 --	--	--	POWELL	24200
714	8/30/1946 --	--	--	POWELL	24300
713	8/26/1946 --	--	--	POWELL	25100
712	8/21/1946 --	--	--	POWELL	24900
711	8/16/1946 --	--	--	POWELL	22800
710	8/12/1946 --	--	--	POWELL	18800
709	8/6/1946 --	--	--	POWELL	13000
708	8/1/1946 --	--	--	POWELL	15400
707	7/26/1946 --	--	--	POWELL	20300
706	7/22/1946 --	--	--	POWELL	33500
705	7/16/1946 --	--	--	POWELL	34100
704	7/11/1946 --	--	--	PERRY	33800
703	7/5/1946 --	--	--	PERRY	30600
702	7/1/1946 --	--	--	PERRY	47600
701	6/26/1946 --	--	--	POWELL	42400
700	6/21/1946 --	--	--	POWELL	45500
699	6/18/1946 --	--	--	POWELL	53300
698	6/17/1946 --	--	--	POWELL	57000
697	6/14/1946 --	--	--	POWELL	37600
696	6/13/1946 --	--	--	POWELL	41000
695	6/11/1946 --	--	--	POWELL	27600
694	6/6/1946 --	--	--	POWELL	24400
693	5/31/1946 --	--	--	POWELL	15700
692	5/24/1946 --	--	--	MOORE	16400
691	5/20/1946 --	--	--	MOORE	17900
690	5/15/1946 --	--	--	POWELL	17000
689	5/10/1946 --	--	--	POWELL	18100
688	5/6/1946 --	--	--	RANDALL	17600
687	5/1/1946 --	--	--	POWELL	15100
686	4/26/1946 --	--	--	POWELL	11200
685	4/22/1946 --	--	--	OWENS	9640
684	4/17/1946 --	--	--	OWENS	11200
683	4/11/1946 --	--	--	EASTMAN	12400
682	4/5/1946 --	--	--	EASTMAN	13400
681	4/2/1946 --	--	--	EAST/POW	14100
680	3/29/1946 --	--	--	OWEN/MOO	36580
679	3/28/1946 --	--	--	OWEN/MOO	57920
678	3/6/1946 --	--	--	EAST/GAB	13600
677	2/26/1946 --	--	--	GABE/MIL	5930
676	2/15/1946 --	--	--	GABE/EAS	6040
675	2/7/1946 --	--	--	GABE/EAS	5470
674	1/24/1946 --	--	--	POWE/EAS	6510
673	1/14/1946 --	--	--	EASTMAN	7130
672	1/8/1946 --	--	--	CREER	4590
671	12/29/1945 --	--	--	EAST/MIL	3280
670	12/20/1945 --	--	--	EASTMAN	3350
669	12/5/1945 --	--	--	EASTMAN	9190

668	11/30/1945	--	--	--	EASTMAN	5200
667	11/23/1945	--	--	--	EASTMAN	11300
666	11/16/1945	--	--	--	MOOR/MCC	8920
665	11/13/1945	--	--	--	MILDENBE	8050
664	11/6/1945	--	--	--	MILDENBE	17800
663	11/1/1945	--	--	--	MILDENBE	21500
662	10/26/1945	--	--	--	MOORE	26900
661	10/20/1945	--	--	--	MILDENBE	24100
660	10/16/1945	--	--	--	MILDENBE	24600
659	10/11/1945	--	--	--	MILDENBE	25500
658	10/5/1945	--	--	--	MILDENBE	24600
657	10/1/1945	--	--	--	MILDENBE	27900
656	9/26/1945	--	--	--	MILDENBE	29500
655	9/21/1945	--	--	--	MOOR/MIL	27300
654	9/17/1945	--	--	--	MOOR/MIL	25400
653	9/11/1945	--	--	--	MOOR/MIL	21800
652	9/6/1945	--	--	--	MOOR/MIL	20000
651	9/1/1945	--	--	--	MOOR/EAS	17600

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

650	8/27/1945	--	--	--	MOOR/MIL	17200
649	8/21/1945	--	--	--	MOOR/EAS	18800
648	8/16/1945	--	--	--	MOOR/MIL	17900
647	8/11/1945	--	--	--	MOOR/MIL	19100
646	8/6/1945	--	--	--	EAST/MOO	18100
645	8/1/1945	--	--	--	MC	CREER
644	7/26/1945	--	--	--	MCCR/MOO	33900
643	7/21/1945	--	--	--	MCCR/MOO	38400
642	7/16/1945	--	--	--	MC	CREER
641	7/11/1945	--	--	--	MCCR/MOO	37400

640	7/6/1945	--	--	MC	CREER
639	7/4/1945	--	--	MC	CREER
638	7/3/1945	--	--	MC	CREER
637	7/2/1945	--	--	MC	CREER
636	6/26/1945	--	--	MCCR/MOO	26800
635	6/21/1945	--	--	MCCR/MOO	36200
634	6/16/1945	--	--	MCCR/MOO	42400
633	6/11/1945	--	--	MC	CREER
632	6/6/1945	--	--	MCCR/MOO	24300
631	6/1/1945	--	--	MCCR/MOO	18300
630	5/26/1945	--	--	MCCR/MOO	18000
629	5/21/1945	--	--	MCCR/MOO	17000
628	5/16/1945	--	--	MCCR/MOO	11600
627	5/11/1945	--	--	MCCR/MOO	9980
626	5/7/1945	--	--	MCCR/MOO	11600
625	5/1/1945	--	--	MCCR/MOO	10100
624	4/26/1945	--	--	MCCR/MOO	9000
623	4/21/1945	--	--	MCCR/MOO	9740
622	4/16/1945	--	--	MCCR/MOO	11400
621	4/11/1945	--	--	MCCR/MOO	13300
620	4/6/1945	--	--	EAST/MOO	15900
619	4/2/1945	--	--	EAST/MOO	23700
618	3/29/1945	--	--	EAST/MOO	30100
617	3/26/1945	--	--	EAST/MOO	40400
616	3/24/1945	--	--	EAST/MOO	61200
615	3/6/1945	--	--	EASTMAN	8350
614	2/26/1945	--	--	EASTMAN	9200
613	2/16/1945	--	--	EASTMAN	12500
612	2/6/1945	--	--	EASTMAN	13300
611	1/26/1945	--	--	EASTMAN	21300
610	1/16/1945	--	--	EASTMAN	15200
609	1/6/1945	--	--	EASTMAN	9690
608	12/29/1944	--	--	EASTMAN	9620
607	12/14/1944	--	--	NELS/EAS	20000
606	11/22/1944	--	--	EAST/MOO	21200
605	11/16/1944	--	--	EAST/MOO	25200
604	11/15/1944	--	--	EAST/MOO	24600
603	11/11/1944	--	--	MOORE/NE	24100
602	11/6/1944	--	--	MOORE	19100
601	11/1/1944	--	--	MOORE	19400

Meas.
Number Date
Datum Who
flow
(ft3/s) Gage
Height

Time
Stream

Time

(ft)	Rating					
No.	Shift					
Adj.						
(ft)	%					
Diff.	GH					
Change						
(ft)	Meas.					
Duration						
(hr)	Meas.					
Rated	Control		Flow			
Adjust.						
Code						
600	10/26/1944	--	--	--	MOORE	26500
599	10/21/1944	--	--	--	MOORE	27700
598	10/16/1944	--	--	--	MOORE	19600
597	10/6/1944	--	--	--	MOORE	21600
596	10/1/1944	--	--	--	MOORE	20200
595	9/26/1944	--	--	--	MOORE	19100
594	9/21/1944	--	--	--	MOORE	18800
593	9/16/1944	--	--	--	MOORE	18600
592	9/11/1944	--	--	--	MOORE	22000
591	9/6/1944	--	--	--	MOORE	20500
590	9/1/1944	--	--	--	MOORE	23800
589	8/26/1944	--	--	--	MOORE	25400
588	8/21/1944	--	--	--	MOORE	25100
587	8/16/1944	--	--	--	MOORE	25400
586	8/11/1944	--	--	--	MOORE	28500
585	8/6/1944	--	--	--	MOORE	25500
584	8/1/1944	--	--	--	MOORE	23200
583	7/26/1944	--	--	--	MOORE	23700
582	7/21/1944	--	--	--	MOORE	33800
581	7/16/1944	--	--	--	MOORE	41100
580	7/11/1944	--	--	--	MOORE	50000
579	7/6/1944	--	--	--	MOORE	60700
578	7/1/1944	--	--	--	MOORE	78400
577	6/26/1944	--	--	--	MOORE	112000
576	6/23/1944	--	--	--	MOORE	111000
575	6/21/1944	--	--	--	MOORE	94300
574	6/16/1944	--	--	--	MOORE	57800
573	6/15/1944	--	--	--	MOORE	55300
572	6/11/1944	--	--	--	MOORE	66200
571	6/6/1944	--	--	--	MOORE	56800
570	6/1/1944	--	--	--	MOORE	30800
569	5/26/1944	--	--	--	MOORE	44500
568	5/21/1944	--	--	--	MOORE	14600
567	5/16/1944	--	--	--	MOORE	10200
566	5/11/1944	--	--	--	MOORE	13400

565	5/6/1944	--	--	MOORE	9850
564	5/2/1944	--	--	MOORE	9640
563	4/26/1944	--	--	MOORE	12100
562	4/21/1944	--	--	MOORE	15800
561	4/17/1944	--	--	MOORE	19100
560	4/14/1944	--	--	MOORE	40400
559	4/9/1944	--	--	MOORE	71300
558	4/8/1944	--	--	MOORE	87600
557	3/29/1944	--	--	MOORE	34900
556	3/27/1944	--	--	MOORE	18100
555	3/20/1944	--	--	MOORE	10600
554	3/14/1944	--	--	MOORE	8960
553	3/3/1944	--	--	MOORE	9670
552	2/19/1944	--	--	MOORE	9740
551	2/10/1944	--	--	MOORE	16900

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

550	1/29/1944	--	--	MOORE	18400
549	1/21/1944	--	--	HIMR/MOO	9870
548	1/12/1944	--	--	HIMR/MOO	12600
547	1/5/1944	--	--	MOORE	15800
546	12/29/1943	--	--	MOOR/HIM	12200
545	12/1/1943	--	--	MOORE	21000
544	11/26/1943	--	--	MOORE	23200
543	11/21/1943	--	--	MOORE	21700
542	11/16/1943	--	--	MOORE	22500
541	11/11/1943	--	--	MOORE	26400
540	11/6/1943	--	--	MOORE	28800
539	11/1/1943	--	--	MOORE	27900
538	10/26/1943	--	--	MOORE	28900

537	10/21/1943	--	--	MOORE	27100
536	10/16/1943	--	--	MOORE	25800
535	10/11/1943	--	--	MOORE	28700
534	10/6/1943	--	--	MOORE	29100
533	10/1/1943	--	--	MOORE	27000
532	9/26/1943	--	--	MOORE	29500
531	9/21/1943	--	--	MOORE	29000
530	9/16/1943	--	--	MOORE	27000
529	9/11/1943	--	--	MOORE	27600
528	9/6/1943	--	--	MOORE	28400
527	9/1/1943	--	--	MOORE	32200
526	8/26/1943	--	--	MOORE	31600
525	8/21/1943	--	--	MOORE	30800
524	8/16/1943	--	--	MOORE	21900
523	8/11/1943	--	--	MOORE	24000
522	8/6/1943	--	--	MOORE	23800
521	8/1/1943	--	--	MOORE	27700
520	7/27/1943	--	--	MOORE	28600
519	7/22/1943	--	--	MOOR/LIT	35200
518	7/16/1943	--	--	MOORE	56600
517	7/11/1943	--	--	MOORE	64800
516	7/6/1943	--	--	MOORE	74700
515	7/1/1943	--	--	MOORE	83600
514	6/26/1943	--	--	MOORE	78700
513	6/21/1943	--	--	MOORE	59300
512	6/16/1943	--	--	MOORE	49900
511	6/11/1943	--	--	MOORE	43000
510	6/6/1943	--	--	MOORE	81100
509	6/1/1943	--	--	MOORE	22500
508	5/26/1943	--	--	MOORE	19500
507	5/21/1943	--	--	MOORE	20100
506	5/16/1943	--	--	MOORE	23800
505	5/11/1943	--	--	MOORE	23100
504	5/6/1943	--	--	MOORE	22900
503	5/1/1943	--	--	MOORE	24900
502	4/26/1943	--	--	MOORE	21500
501	4/21/1943	--	--	MOORE	24300

Meas.			
Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			

(ft)	%					
Diff.	GH					
Change						
(ft)	Meas.					
Duration						
(hr)	Meas.					
Rated	Control	Flow				
Adjust.						
Code						
500	4/16/1943	--	--	--	STEPHAN	28200
499	4/11/1943	--	--	--	MOORE	36400
498	4/7/1943	--	--	--	STEPHAN	51100
497	4/3/1943	--	--	--	STEPH/MO	280000
496	4/2/1943	--	--	--	STEPH/MO	240000
495	4/1/1943	--	--	--	STEPH/MO	224000
494	3/31/1943	--	--	--	STEPH/MO	108000
493	3/30/1943	--	--	--	STEPH/MO	54500
492	2/21/1943	--	--	--	HIMRICH	6740
491	2/6/1943	--	--	--	HIMRICH	3710
490	1/27/1943	--	--	--	HIMRICH	5530
489	1/8/1943	--	--	--	HIMRICH	6410
488	12/29/1942	--	--	--	HIMRICH	8610
487	12/12/1942	--	--	--	HARD/HIM	2890
486	11/17/1942	--	--	--	HARDINE	15300
485	11/12/1942	--	--	--	HARDINE	22700
484	11/6/1942	--	--	--	HARDINE	21900
483	11/1/1942	--	--	--	HARD/LIT	20200
482	10/27/1942	--	--	--	HARDINE	19500
481	10/21/1942	--	--	--	HARDINE	18700
480	10/16/1942	--	--	--	HARDINE	19100
479	10/12/1942	--	--	--	HARDINE	19500
478	10/6/1942	--	--	--	HARDINE	20400
477	10/1/1942	--	--	--	HARDINE	20500
476	9/26/1942	--	--	--	HARDINE	22000
475	9/22/1942	--	--	--	HARDINE	20300
474	9/16/1942	--	--	--	HARDINE	17900
473	9/11/1942	--	--	--	HARDINE	18700
472	9/5/1942	--	--	--	HARDINE	19000
471	8/31/1942	--	--	--	HARDINE	17900
470	8/26/1942	--	--	--	HARDINE	18300
469	8/21/1942	--	--	--	HARDINE	18400
468	8/16/1942	--	--	--	HARDINE	18400
467	8/11/1942	--	--	--	HARDINE	19700
466	8/7/1942	--	--	--	HARDINE	21300
465	7/31/1942	--	--	--	HARDINE	16600
464	7/26/1942	--	--	--	HARDINE	18900
463	7/22/1942	--	--	--	HARDINE	20700

462	7/16/1942	--	--	HARDINE	35000
461	7/11/1942	--	--	HARDINE	37500
460	7/7/1942	--	--	HARDINE	30900
459	7/1/1942	--	--	HARDINE	36400
458	6/26/1942	--	--	HARDINE	33800
457	6/21/1942	--	--	HARDINE	43200
456	6/16/1942	--	--	HARDINE	75200
455	6/12/1942	--	--	HARDINE	68300
454	6/8/1942	--	--	HARDINE	57800
453	6/4/1942	--	--	HARDINE	55500
452	6/2/1942	--	--	HARDINE	61000
451	5/31/1942	--	--	HARDINE	52400

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

450	5/29/1942	--	--	HARDINE	40000
449	5/26/1942	--	--	HARDINE	24400
448	5/21/1942	--	--	HARDINE	28200
447	5/16/1942	--	--	HARDINE	15700
446	5/11/1942	--	--	HARDINE	16400
445	5/6/1942	--	--	HARDINE	17600
444	5/1/1942	--	--	HARDINE	25900
443	4/27/1942	--	--	HARDINE	17600
442	4/22/1942	--	--	HARDINE	17100
441	4/16/1942	--	--	HARDINE	17700
440	4/11/1942	--	--	HARDINE	16100
439	3/21/1942	--	--	HARDINE	35100
438	3/12/1942	--	--	HARDINE	7100
437	3/5/1942	--	--	STEPH/HA	5720
436	2/21/1942	--	--	STEPHAN	7660
435	2/11/1942	--	--	STEPHAN	8190

434	1/31/1942	--	--	STEPHAN	8680
433	1/21/1942	--	--	STEPHAN	4520
432	1/10/1942	--	--	STEPHAN	3060
431	1/2/1942	--	--	PIERCE	7870
430	12/28/1941	--	--	PIERCE	10400
429	12/20/1941	--	--	PIERCE	6950
428	12/17/1941	--	--	PIERCE	6560
427	12/12/1941	--	--	PIERCE	4760
426	12/6/1941	--	--	PIERCE	8260
425	11/21/1941	--	--	PIERCE	11600
424	11/17/1941	--	--	PIERCE	12200
423	11/12/1941	--	--	PIERCE	12900
422	11/8/1941	--	--	PIERCE	12900
421	11/6/1941	--	--	PIERCE	13000
420	11/1/1941	--	--	PIERCE	14000
419	10/27/1941	--	--	PIERCE	14900
418	10/21/1941	--	--	PIERCE	15000
417	10/16/1941	--	--	PIERCE	16100
416	10/10/1941	--	--	PIERCE	30800
415	10/6/1941	--	--	PIERCE	19900
414	10/1/1941	--	--	PIERCE	15900
413	9/26/1941	--	--	PIERCE	15500
412	9/22/1941	--	--	PIERCE	16100
411	9/16/1941	--	--	PIERCE	19100
410	9/11/1941	--	--	PIERCE	43100
409	9/6/1941	--	--	PIERCE	22700
408	9/2/1941	--	--	PIERCE	21800
407	8/26/1941	--	--	PIERCE	18900
406	8/21/1941	--	--	PIERCE	24900
405	8/16/1941	--	--	PIERCE	20500
404	8/12/1941	--	--	PIERCE	20600
403	8/6/1941	--	--	STEPHAN	23400
402	8/1/1941	--	--	STEPHAN	19600
401	7/26/1941	--	--	STEPHAN	18200

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft ³ /s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			

(ft)	Meas.					
Duration						
(hr)	Meas.					
Rated	Control	Flow				
Adjust.						
Code						
400	7/21/1941	--	--	--	PIERCE	20600
399	7/17/1941	--	--	--	PIERCE	17800
398	7/12/1941	--	--	--	PIERCE	20000
397	7/7/1941	--	--	--	PIERCE	20400
396	7/1/1941	--	--	--	PIERCE	27600
395	6/27/1941	--	--	--	PIERCE	31500
394	6/23/1941	--	--	--	PIERCE	39700
393	6/18/1941	--	--	--	PIERCE	35300
392	6/14/1941	--	--	--	PIERCE	40000
391	6/7/1941	--	--	--	PIERCE	27900
390	6/1/1941	--	--	--	ROEMER	23800
389	5/27/1941	--	--	--	ROEMER	21700
388	5/23/1941	--	--	--	ROEMER	23000
387	5/20/1941	--	--	--	ROEMER	28600
386	5/15/1941	--	--	--	ROEMER	18300
385	5/9/1941	--	--	--	PIERCE	18400
384	5/5/1941	--	--	--	PIERCE	18200
383	4/28/1941	--	--	--	PIERCE	17300
382	4/14/1941	--	--	--	PIERCE	19000
381	4/7/1941	--	--	--	PIERCE	32400
380	4/3/1941	--	--	--	PIERCE	19200
379	3/19/1941	--	--	--	PIERCE	8300
378	3/8/1941	--	--	--	PIERCE	5240
377	2/25/1941	--	--	--	PIERCE	6110
376	2/17/1941	--	--	--	PIERCE	6090
375	2/5/1941	--	--	--	PIERCE	5490
374	1/18/1941	--	--	--	PIERCE	4000
373	1/6/1941	--	--	--	PIERCE	6410
372	12/21/1940	--	--	--	PIERCE	6950
371	12/10/1940	--	--	--	ROEMER	8560
370	11/26/1940	--	--	--	PIERCE	5840
369	11/16/1940	--	--	--	PIERCE	3160
368	11/6/1940	--	--	--	PIERCE	9490
367	10/28/1940	--	--	--	PIERCE	10000
366	10/14/1940	--	--	--	PIERCE	12700
365	10/12/1940	--	--	--	PIERCE	15200
364	10/9/1940	--	--	--	PIERCE	27400
363	9/26/1940	--	--	--	MEYER	8230
362	9/16/1940	--	--	--	MEYER	6540
361	9/6/1940	--	--	--	MEYER	17400
360	8/27/1940	--	--	--	MEYER	18600

359	8/16/1940 --	--	--	MEYER	18200
358	8/6/1940 --	--	--	MEYER	23600
357	7/27/1940 --	--	--	MEYER	17200
356	7/17/1940 --	--	--	MEYER	17800
355	7/9/1940 --	--	--	MEYER	15200
354	6/30/1940 --	--	--	MEYER	25500
353	6/19/1940 --	--	--	MEYER	25200
352	6/14/1940 --	--	--	MEYER	41600
351	6/6/1940 --	--	--	CRAIG	24100

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft ³ /s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

350	5/27/1940 --	--	--	CRAIG	18700
349	5/16/1940 --	--	--	CRAIG	15000
348	5/6/1940 --	--	--	CRAIG	19100
347	4/26/1940 --	--	--	CRAIG	22300
346	4/16/1940 --	--	--	CRAIG	31100
345	4/15/1940 --	--	--	CRAIG	29600
344	4/10/1940 --	--	--	CRAIG	12200
343	3/16/1940 --	--	--	CRAIG	5810
342	3/2/1940 --	--	--	PIERCE	5130
341	2/14/1940 --	--	--	HELY	4910
340	1/31/1940 --	--	--	HELY	4040
339	1/17/1940 --	--	--	HELY	4310
338	1/5/1940 --	--	--	HELY	2020
337	12/16/1939 --	--	--	HELY	9920
336	12/6/1939 --	--	--	HELY	9300
335	11/26/1939 --	--	--	HELY	9850
334	11/17/1939 --	--	--	HELY	11100
333	11/8/1939 --	--	--	HELY	10100
332	10/29/1939 --	--	--	HELY	8240

331	10/19/1939	--	--	HELY	8280
330	10/9/1939	--	--	HELY	9090
329	9/28/1939	--	--	CRAIG/HE	7960
328	9/18/1939	--	--	HELY	7230
327	9/6/1939	--	--	CRAIG	8160
326	8/26/1939	--	--	CRAIG	11300
325	8/17/1939	--	--	CRAIG	13500
324	8/5/1939	--	--	CRAIG	12600
323	7/26/1939	--	--	HELY	18800
322	7/16/1939	--	--	HELY	21800
321	7/6/1939	--	--	HELY	38700
320	6/27/1939	--	--	HELY	46800
319	6/17/1939	--	--	HELY	37300
318	6/6/1939	--	--	HELY	63700
317	5/27/1939	--	--	HELY	38700
316	5/15/1939	--	--	HELY	31600
315	5/5/1939	--	--	HELY	19400
314	4/26/1939	--	--	HELY	19500
313	4/15/1939	--	--	HELY	25700
312	4/4/1939	--	--	HELY	50100
311	3/29/1939	--	--	HELY	182000
310	3/28/1939	--	--	HELY	236000
309	3/15/1939	--	--	HELY	8900
308	3/2/1939	--	--	HELY	9040
307	2/14/1939	--	--	HELY	6190
306	2/2/1939	--	--	HELY	8670
305	1/20/1939	--	--	HELY	12100
304	1/4/1939	--	--	HELY	10500
303	12/20/1938	--	--	HELY	12300
302	12/6/1938	--	--	HELY	8790
301	11/6/1938	--	--	HELY	14100

Meas.			
Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		

Rated Adjust. Code	Control	Flow				
300	10/25/1938 --	--	--	HELY	13200	
299	10/14/1938 --	--	--	HELY	11000	
298	10/4/1938 --	--	--	HELY	21300	
297	9/19/1938 --	--	--	HELY	21300	
296	9/9/1938 --	--	--	HELY	19500	
295	8/30/1938 --	--	--	HELY	19900	
294	8/19/1938 --	--	--	HELY	22500	
293	8/9/1938 --	--	--	HELY	25500	
292	7/28/1938 --	--	--	HELY	34900	
291	7/20/1938 --	--	--	HELY	40100	
290	7/9/1938 --	--	--	HELY	89900	
289	6/28/1938 --	--	--	HELY	86600	
288	6/26/1938 --	--	--	HELY	73600	
287	6/15/1938 --	--	--	HELY	53500	
286	6/7/1938 --	--	--	HELY	40000	
285	5/28/1938 --	--	--	HELY	20300	
284	5/18/1938 --	--	--	HELY	12200	
283	5/8/1938 --	--	--	HELY	11500	
282	4/28/1938 --	--	--	HELY	9720	
281	4/19/1938 --	--	--	HELY	10800	
280	4/9/1938 --	--	--	HELY	11200	
279	3/25/1938 --	--	--	HELY	41300	
278	3/21/1938 --	--	--	HELY	75300	
277	3/20/1938 --	--	--	HELY	130000	
276	3/19/1938 --	--	--	HELY	212000	
275	3/3/1938 --	--	--	HELY	4500	
274	2/15/1938 --	--	--	HELY	3470	
273	2/2/1938 --	--	--	HELY	5720	
272	1/19/1938 --	--	--	HELY	6710	
271	1/5/1938 --	--	--	HELY	5300	
270	12/18/1937 --	--	--	HELY	4510	
269	12/4/1937 --	--	--	HELY	4620	
268	11/7/1937 --	--	--	HELY	9270	
267	10/25/1937 --	--	--	HELY	9350	
266	10/15/1937 --	--	--	HELY	14600	
265	9/30/1937 --	--	--	HELY	5840	
264	9/21/1937 --	--	--	HELY/BEC	7280	
263	9/12/1937 --	--	--	HELY/BEC	6700	
262	8/30/1937 --	--	--	HELY	5280	
261	8/19/1937 --	--	--	HELY	7420	
260	8/9/1937 --	--	--	HELY	14200	
259	7/29/1937 --	--	--	HELY	18900	
258	7/20/1937 --	--	--	HELY	48000	
257	7/9/1937 --	--	--	HELY	27100	

256	6/30/1937	--	--	HELY/ODE	53800
255	6/18/1937	--	--	ODELL	95300
254	6/15/1937	--	--	ODELL	34700
253	6/3/1937	--	--	ODELL	29200
252	5/21/1937	--	--	ODELL	19700
251	5/12/1937	--	--	ODELL	11500

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft ³ /s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

250	5/3/1937	--	--	ODELL	13300
249	4/22/1937	--	--	ODELL	16000
248	4/13/1937	--	--	ODELL	34500
247	3/8/1937	--	--	ODELL	7630
246	2/25/1937	--	--	ODELL	5240
245	1/11/1937	--	--	ODELL	6090
244	12/15/1936	--	--	ODELL	3560
243	11/22/1936	--	--	ODELL	17900
242	11/20/1936	--	--	ODELL	14500
241	10/22/1936	--	--	ODELL	8810
240	10/13/1936	--	--	ODELL	8190
239	10/2/1936	--	--	ODELL	7230
238	9/23/1936	--	--	ODELL	7170
237	9/12/1936	--	--	ODELL	6850
236	9/2/1936	--	--	ODELL	9100
235	8/22/1936	--	--	ODELL	10300
234	8/13/1936	--	--	ODELL	10000
233	8/3/1936	--	--	ODELL	8900
232	7/22/1936	--	--	ODELL	15100
231	7/13/1936	--	--	ODELL	14900
230	7/1/1936	--	--	ODELL	29000
229	6/22/1936	--	--	ODELL	41300

228	6/12/1936	--	--	ODELL	45400
227	6/2/1936	--	--	ODELL	31600
226	5/21/1936	--	--	ODELL	58800
225	5/11/1936	--	--	ODELL	18100
224	5/2/1936	--	--	ODELL	22100
223	4/23/1936	--	--	ODELL	20100
222	4/16/1936	--	--	ODELL	49800
221	3/5/1936	--	--	ODELL	7520
220	2/21/1936	--	--	ODELL	6130
219	2/4/1936	--	--	ODELL	7840
218	1/24/1936	--	--	ODELL	5040
217	1/14/1936	--	--	ODELL	6880
216	1/4/1936	--	--	ODELL	5800
215	12/21/1935	--	--	ODELL	7710
214	12/13/1935	--	--	ODELL	9210
213	12/3/1935	--	--	ODELL	10300
212	11/26/1935	--	--	ODELL	8400
211	10/25/1935	--	--	ODELL	8380
210	10/16/1935	--	--	ODELL	8200
209	10/2/1935	--	--	HANS/ODE	7380
208	9/21/1935	--	--	HANSEN	8000
207	9/13/1935	--	--	HANSEN	8310
206	9/4/1935	--	--	HANSEN	8440
205	8/24/1935	--	--	HANSEN	8510
204	8/12/1935	--	--	HANSEN	10800
203	8/2/1935	--	--	HANSEN	22200
202	7/25/1935	--	--	HANSEN	22100
201	7/13/1935	--	--	HANSEN	110000

Meas.			
Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

200	7/12/1935 --	--	--	HANSEN	66200
199	7/2/1935 --	--	--	HANSEN	44700
198	6/25/1935 --	--	--	HANSEN	63900
197	6/14/1935 --	--	--	HANSEN	38800
196	6/5/1935 --	--	--	HANSEN	34700
195	5/21/1935 --	--	--	HANSEN	13900
194	5/11/1935 --	--	--	HANSEN	16100
193	4/23/1935 --	--	--	HANSEN	12600
192	3/18/1935 --	--	--	HANSEN	9180
191	2/27/1935 --	--	--	HANSEN	9860
190	2/17/1935 --	--	--	HANSEN	9630
189	1/17/1935 --	--	--	HANSEN	4280
188	12/29/1934 --	--	--	HANSEN	7260
187	12/23/1934 --	--	--	HANSEN	6170
186	11/19/1934 --	--	--	HANSEN	8580
185	11/8/1934 --	--	--	HANSEN	8130
184	10/27/1934 --	--	--	LITTLE/H	7970
183	10/17/1934 --	--	--	HANSEN	7750
182	10/8/1934 --	--	--	HANSEN	6990
181	9/29/1934 --	--	--	HANSEN	5200
180	9/18/1934 --	--	--	HANSEN	4470
179	9/7/1934 --	--	--	HANSEN	4310
178	8/28/1934 --	--	--	HANSEN	4180
177	8/16/1934 --	--	--	HANSEN	5920
176	8/7/1934 --	--	--	HANSEN	9930
175	7/27/1934 --	--	--	HANSEN	6230
174	7/16/1934 --	--	--	HANS/MOO	10400
173	7/8/1934 --	--	--	BEKKEDAH	14100
172	6/28/1934 --	--	--	BEKKEDAH	25300
171	6/18/1934 --	--	--	BEKKEDAH	47000
170	6/12/1934 --	--	--	BEKKEDAH	19700
169	6/2/1934 --	--	--	HEIDEL	23200
168	6/1/1934 --	--	--	BEKKEDAH	22500
167	5/24/1934 --	--	--	BEKKEDAH	22600
166	5/15/1934 --	--	--	RUPP	30600
165	5/7/1934 --	--	--	BEKKEDAH	26700
164	4/25/1934 --	--	--	BEKKEDAH	20800
163	4/12/1934 --	--	--	BEKKEDAH	21500
162	4/5/1934 --	--	--	BEKKEDAH	18800
161	3/21/1934 --	--	--	BEKKEDAH	35700
160	3/20/1934 --	--	--	BEKKEDAH	73800
159	3/20/1934 --	--	--	BEKKEDAH	62200
158	3/2/1934 --	--	--	HEIDEL	18800
157	2/10/1934 --	--	--	HEIDEL	14600
156	1/25/1934 --	--	--	HEIDEL	12900
155	1/6/1934 --	--	--	POST	6100
154	12/6/1933 --	--	--	HEIDEL	10700

153	11/22/1933	--	--	--	LAMB	12700
152	11/17/1933	--	--	--	HEIDEL	20400
151	11/7/1933	--	--	--	LAMB	5420

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

150	10/27/1933	--	--	--	LAMB	9420
149	10/16/1933	--	--	--	LAMB	8830
148	10/7/1933	--	--	--	HEIDEL	9490
147	9/27/1933	--	--	--	MOORE	10300
146	9/25/1933	--	--	--	MOORE	10200
145	9/22/1933	--	--	--	MOORE	10400
144	9/20/1933	--	--	--	MOORE	10400
143	9/16/1933	--	--	--	MOORE	12300
142	9/16/1933	--	--	--	HEIDEL	12300
141	9/14/1933	--	--	--	HEIDEL	12900
140	9/14/1933	--	--	--	MOORE	12500
139	9/12/1933	--	--	--	MOORE	15100
138	9/9/1933	--	--	--	MOORE	17800
137	9/7/1933	--	--	--	MOORE	21500
136	9/5/1933	--	--	--	MOORE	30500
135	9/2/1933	--	--	--	MOORE	30500
134	9/1/1933	--	--	--	HEIDEL	17200
133	8/31/1933	--	--	--	MOORE	8730
132	8/18/1933	--	--	--	HEIDEL	8990
131	8/14/1933	--	--	--	BEKKEDAH	8660
130	7/9/1933	--	--	--	BEKKEDAH	31400
129	6/28/1933	--	--	--	OAKL/REG	63000
128	6/21/1933	--	--	--	OAKL/EER	88300
127	6/19/1933	--	--	--	OAKL/EER	85500
126	6/15/1933	--	--	--	OAKL/REG	71100

125	6/8/1933	--	--	OAKL/REG	75200
124	5/26/1933	--	--	JACO/DEL	74300
123	5/10/1933	--	--	HEI/OAK/	34200
122	5/3/1933	--	--	BEKK/KEN	19700
121	4/22/1933	--	--	JACO/DEL	15600
120	4/8/1933	--	--	BEKKEDAH	18900
119	4/1/1933	--	--	JACOBSON	55900
118	3/27/1933	--	--	HEID/JAC	35000
117	3/10/1933	--	--	JACO/DEL	16300
116	2/23/1933	--	--	HEID/JAC	5900
115	2/17/1933	--	--	JACO/DEL	8240
114	1/28/1933	--	--	JAC/DEL/	8410
113	1/14/1933	--	--	HEID/JAC	8460
112	12/31/1932	--	--	KENN/EER	5170
111	12/16/1932	--	--	LAMB	7820
110	11/4/1932	--	--	BEKKEDAH	12200
109	10/29/1932	--	--	JACO/REG	15000
108	10/12/1932	--	--	LAMB	10800
107	10/7/1932	--	--	CARL/DEL	11200
106	9/15/1932	--	--	CARL/DEL	11400
105	8/22/1932	--	--	JACO/HOY	15500
104	8/9/1932	--	--	BEKK/KEN	12900
103	7/23/1932	--	--	JACO/REG	27700
102	7/18/1932	--	--	BEKK/JAC	26200
101	7/8/1932	--	--	BEKK/JAC	59600

Meas.

Number	Date	Time	Time
Datum	Who	Stream	
flow			
(ft3/s)	Gage		
Height			
(ft)	Rating		
No.	Shift		
Adj.			
(ft)	%		
Diff.	GH		
Change			
(ft)	Meas.		
Duration			
(hr)	Meas.		
Rated	Control	Flow	
Adjust.			
Code			

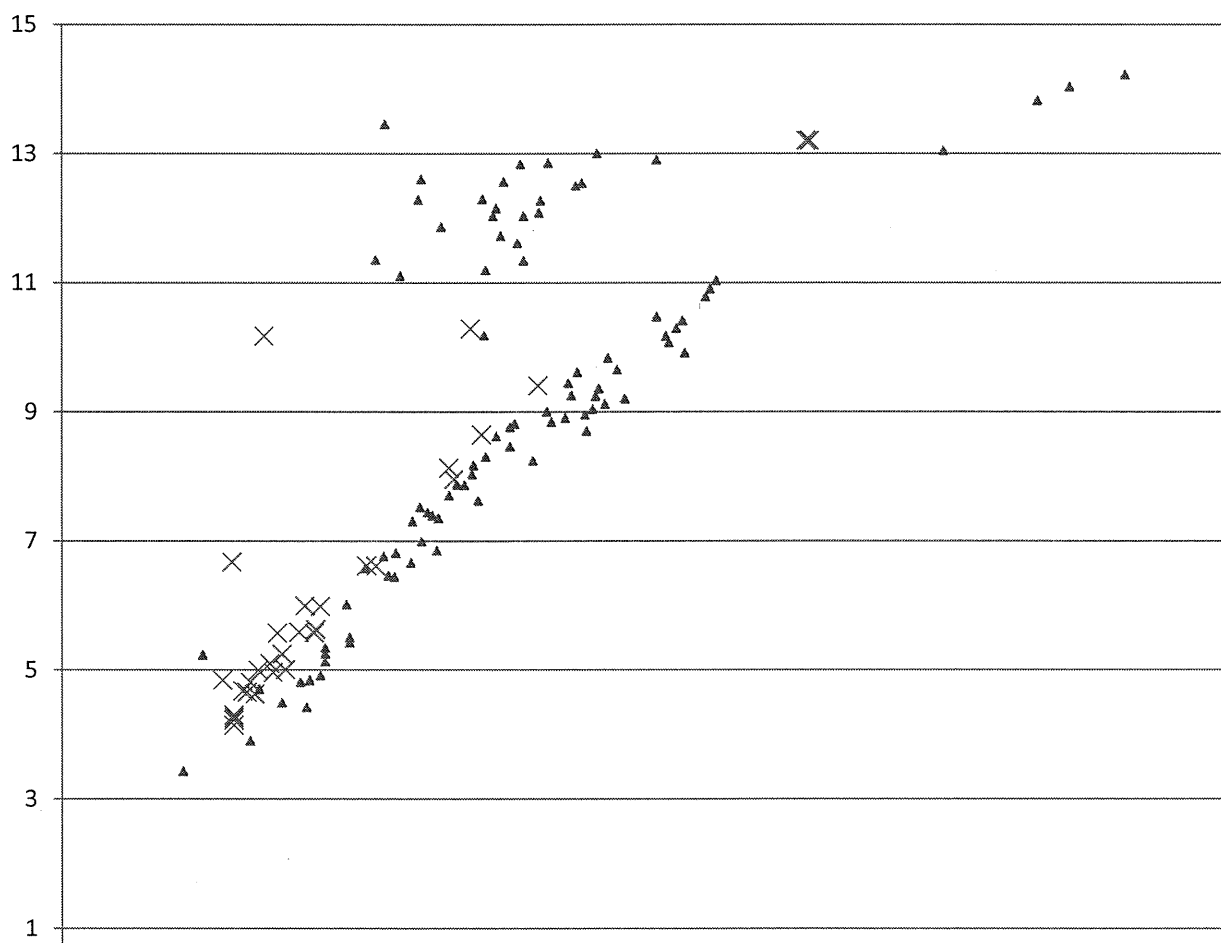
100	7/2/1932	--	--	JACO/REG	99300
99	6/28/1932	--	--	BEKK/KEN	87800
98	6/23/1932	--	--	JACO/DEL	79500

97	6/18/1932 --	--	--	HEID/JAC	71300
96	6/16/1932 --	--	--	JACO/DEL	74700
95	6/13/1932 --	--	--	JACOB/KE	117000
94	6/9/1932 --	--	--	JACO/REG	33200
93	5/28/1932 --	--	--	BEKKEDAH	70900
92	5/27/1932 --	--	--	JACOB/KE	79300
91	5/21/1932 --	--	--	JACOB/RE	49400
90	5/17/1932 --	--	--	HEID/JAC	21800
89	5/11/1932 --	--	--	JACO/REG	21300
88	4/29/1932 --	--	--	KENN/JAC	49700
87	4/25/1932 --	--	--	LAMB/JAC	22800
86	4/18/1932 --	--	--	BEKKE/JA	15800
85	4/6/1932 --	--	--	JACO/REG	47900
84	4/2/1932 --	--	--	JACO/KEN	66100
83	3/15/1932 --	--	--	JACO/KEN	12300
82	2/8/1932 --	--	--	REGIS/KE	5680
81	1/18/1932 --	--	--	JACO/REG	5430
80	1/4/1932 --	--	--	LAMB/JAC	7990
79	12/12/1931 --	--	--	BEKK/REG	4040
78	12/8/1931 --	--	--	KENN/JAC	4030
77	10/31/1931 --	--	--	REGIS/MU	8310
76	10/14/1931 --	--	--	REGIS/MU	8990
75	9/30/1931 --	--	--	REGIS/MU	9000
74	9/22/1931 --	--	--	REGIS/MU	5750
73	9/10/1931 --	--	--	REGIS/MU	5750
72	8/29/1931 --	--	--	REGIS/MU	6750
71	8/17/1931 --	--	--	REGIS/MU	12100
70	8/14/1931 --	--	--	POST	13100
69	8/10/1931 --	--	--	REGIS/MU	12400
68	7/28/1931 --	--	--	REGIS/MU	6890
67	7/16/1931 --	--	--	REGIS/MU	11600
66	7/7/1931 --	--	--	REGIS/MU	17200
65	6/30/1931 --	--	--	REGIS/MU	24600
64	6/23/1931 --	--	--	BEKK/MUN	32800
63	6/20/1931 --	--	--	MUNSC/KE	34000
62	6/12/1931 --	--	--	REGIS/KE	41800
61	6/5/1931 --	--	--	REGIS/LE	30000
60	5/26/1931 --	--	--	REGIS/JA	25500
59	5/15/1931 --	--	--	HOIS/JAC	12900
58	4/30/1931 --	--	--	REGIS/JA	11470
57	4/13/1931 --	--	--	REGIS/JA	11200
56	3/5/1931 --	--	--	LAMB	12500
55	2/17/1931 --	--	--	LAMB	9700
54	2/10/1931 --	--	--	LAMB/JAC	12400
53	1/27/1931 --	--	--	LAMB/JAC	6200
52	1/7/1931 --	--	--	KENN/JAC	6200
51	11/6/1930 --	--	--	MUELL/JA	14420

Meas. Number Datum flow (ft3/s) Height (ft) No. Adj. (ft) Diff. Change (ft) Duration (hr) Rated Adjust. Code	Date Who Gage Rating Shift % GH Meas. Meas. Control	Time Stream Flow	Time		
50	9/25/1930	--	--	--	KENN/HEI 13000
49	8/19/1930	--	--	--	HULT/JAC 13120
48	7/27/1930	--	--	--	BEKKEDAH 18900
47	7/9/1930	--	--	--	HULT/JAC 22040
46	6/24/1930	--	--	--	JACO/REG 33500
45	6/6/1930	--	--	--	JACO/REG 61300
44	5/24/1930	--	--	--	POST/JAC 25900
43	4/30/1930	--	--	--	KENN/JAC 25900
42	4/22/1930	--	--	--	KENN/JAC 35300
41	3/25/1930	--	--	--	KENN/JAC 36300
40	2/13/1930	--	--	--	HEIDEL 10300
39	1/29/1930	--	--	--	JACO/SHE 5680
38	12/30/1929	--	--	--	HART/JAC 8330
37	9/20/1929	--	--	--	KENN/JAC 12780
36	8/26/1929	--	--	--	KENN/JAC 10610
35	7/11/1929	--	--	--	REGIS/JA 43300
34	6/29/1929	--	--	--	KENN/JAC 52870
33	6/26/1929	--	--	--	KENN/JAC 55620
32	6/2/1929	--	--	--	KENN/JAC 97780
31	5/31/1929	--	--	--	KENN/JAC 94340
30	5/29/1929	--	--	--	KENN/JAC 75830
29	4/9/1929	--	--	--	HEID/JAC 35400
28	3/13/1929	--	--	--	PARS/TUR 11200
27	2/16/1929	--	--	--	PARS/JAC 8770
26	1/11/1929	--	--	--	HEID/JAC 11300
25	11/22/1928	--	--	--	KENN/JAC 13510
24	8/16/1928	--	--	--	DIEHL/JA 24800
23	8/9/1928	--	--	--	DIEHL/JA 36400

22	7/26/1928 --	--	--	REG/JACO	58400
21	7/11/1928 --	--	--	DIEHL/JA	120000
20	7/9/1928 --	--	--	DIEHL/JA	104000
19	7/5/1928 --	--	--	DIEHL/JA	96600
18	7/3/1928 --	--	--	DIEHL/JA	91500
17	6/18/1928 --	--	--	DIEHL/JA	54800
16	6/13/1928 --	--	--	DIEHL/JA	61600
15	6/9/1928 --	--	--	DIEHL/JA	79000
14	6/1/1928 --	--	--	DIEHL/JA	122000
13	5/24/1928 --	--	--	DIEHL/JA	79300
12	5/9/1928 --	--	--	DIEHL/JA	41800
11	1/18/1928 --	--	--	DIEHL/JA	17600
10	9/30/1927 --	--	--	DIEHL/JA	22000
9	8/1/1927 --	--	--	DIEHL/JA	31800
8	6/24/1927 --	--	--	DIEHL/JA	161000
7	5/31/1927 --	--	--	DIEHL/JA	89000
6	10/18/1905 --	--	--	CHANDLER	8040
5	8/30/1905 --	--	--	RICHARDS	13250
4	8/9/1905 --	--	--	RICHARDS	28900
3	7/10/1905 --	--	--	CHAN/RIC	49200
2	6/23/1905 --	--	--	CHAN/RIC	49200
1	10/28/1904 --	--	--	CHANDLER	10350

Rating No.	Shift Adj. (ft)	% Diff.	GH Change (ft)	Meas. Duration (hr)	Meas. Rated	Control	Flow Adjust. Code
15.1	-1.3	-0.2	0.01	GOOD	MEAS		
15.1	-1.3	0.2	0.01	GOOD	MEAS		
15.1	-0.35	0	0.01	0.3	GOOD	CLER	UNSP
15.1	-0.31	-1.3	0	0.25	FAIR	MEAS	
15.1	-0.4	0.4	0.01	0.35	FAIR	CLER	MEAS
15.1	-0.72	-1.4	0.01	0.2	GOOD	CLER	OTHR
15.1	-0.72	1.3	0.01	0.45	FAIR	CLER	MEAS
15.1	-1.11	0	0	0.2	FAIR	CLER	MEAS



	0.0	10000.0	20000.0	30000.0	40000.0	50000.0	60000.0	70000.0
-1								
15	-0.2	0.5	0 0.2	FAIR CLER	MEAS			
15	-0.58	0	0.75 POOR	CLER MEAS				
15	-0.4	1.4	-0.01 0.3	FAIR CLER	MEAS			
15	-0.3	-4	0 0.25	GOOD CLER	MEAS			
15	-0.33	1.5	0 0.2	FAIR CLER	MEAS			
15	-0.17	1.2	0 0.2	FAIR CLER	MEAS			
15	-0.18	1.8	0.02 1	FAIR CLER	MEAS			
15	0	-0.5	0.01 1.4	FAIR CLER	MEAS			
15	-0.33	-0.1	0 0.25	FAIR CLER	MEAS			
15	-0.33	7	0.01 1.4	FAIR CLER	MEAS			
15	-0.37	-3.5	0 0.25	GOOD CLER	MEAS			
15	-0.39	0.6	-0.01 1.25	GOOD CLER	MEAS			
15	-0.34	4.5	0.04 1.5	GOOD CLER	MEAS			
15	-0.52	2.7	0.01 2.5	GOOD CLER	MEAS			
15	-0.41	-4.4	0.01 3	GOOD CLER	MEAS			
15	-0.52	2.9	0 FAIR	MEAS				
15	-0.52	2	0 2.5	GOOD MEAS				
15	-0.52	5.1	0 1.5	GOOD MEAS				
15	-0.52	-3.9	0 0.7	FAIR CLER	MEAS			
15	-0.52	0.4	-0.04 1.7	GOOD MDDB	MEAS			
15	0	0	0 4	GOOD LGDB	MEAS			
15	0	1.2	-0.02 2.5	GOOD LGDB	MEAS			
15	-0.52	-1.7	0.02 4.1	GOOD CLER	MEAS			

15	-0.52	-2.2	-0.02 1.25	FAIR LGDB	MEAS
15	-0.35	-4.1	-0.01 2	GOOD CLER	MEAS
15	0	2.7	-0.05 2	GOOD CLER	MEAS
15	0	2.4	-0.07 3	GOOD CLER	MEAS
0	POOR	CLER	UNSP		
15	0	4.5	0.04 3	GOOD CLER	MEAS
15	0	-6.2	-0.01 2.5	POOR CLER	MEAS
15	0	-4.9	0 2.25	GOOD CLER	MEAS
15	0	2.7	-0.07 2	GOOD CLER	MEAS
15	0	1.2	-0.05 2	GOOD CLER	MEAS
-0.02	3	FAIR	LGDB UNSP		
15	-0.28	-5	0 1.5	GOOD CLER	MEAS
15	0	4.4	0 3	GOOD CLER	MEAS
15	0	-0.4	0 1.8	GOOD CLER	MEAS
15	-0.43	0.01	1.75 GOOD	CLER MEAS	
15	0	0.7	0.01 1.75	GOOD CLER	MEAS
14	0.49	-3.1	0.04 1.4	GOOD LGDB	MEAS
14	0.42	0.4	0 2	GOOD CLER	MEAS
14	0.37	-4.1	-0.01 1.3	GOOD MEAS	
14	0.23	4.3	0.05 2	GOOD CLER	MEAS
14	0.52	3.5	0.03 1.3	GOOD MEAS	
14	0.43	2.9	0.07 2	GOOD MEAS	
14	0.08	-0.8	0.12 3.75	GOOD MEAS	
14	0.41	-0.6	0.05 4.5	GOOD CLER	MEAS

14	0.48	-1.6	0.01 4	GOOD CLER	MEAS
14	0.46	-1.3	0.03 2	GOOD CLER	MEAS
14	0	-0.7	0 2.3	FAIR CLER	MEAS
14	0	3.9	0.02 1.5	GOOD CLER	MEAS
14	0	-0.1	0.04 2	GOOD CLER	MEAS
14	0	0.6	0.09 2.5	GOOD CLER	MEAS
14	0	-1.8	0.07 2	GOOD CLER	MEAS
14	0.73	1.8	0.13 2.5	GOOD CLER	MEAS
14	0.22	3.8	0.13 2.5	GOOD CLER	MEAS
14	0.38	0	-0.02 2.5	GOOD CLER	MEAS
14	0.46	0	0.03 2.5	GOOD CLER	MEAS
14	0.19	0	0.02 2.5	GOOD CLER	MEAS
14	0.46	0.1	0.02 2	GOOD CLER	MEAS
14	0.14	0	0.14 2	FAIR CLER	MEAS
14	-0.6	0	0 2.5	GOOD CLER	MEAS
14	-0.73	-0.2	-0.01 2	GOOD CLER	MEAS
14	-0.83	0	0 3	GOOD CLER	MEAS
14	-0.74	0.2	0 4	GOOD CLER	MEAS
14	-0.88	1.6	0.01 1.8	GOOD CLER	MEAS
14	-0.88	-1.6	0 2	GOOD CLER	MEAS
14	-0.57	1.1	GOOD CLER	MEAS	
14	-0.39	0	-0.01 1.5	GOOD CLER	MEAS
14	0	-0.05	3 FAIR	SICE MEAS	
14	-0.16	0	0 2	FAIR CLER	MEAS

14	-0.23	0	GOOD CLER	MEAS	
14	-0.95	0	GOOD CLER	MEAS	
14	-0.44	0	0.01 2	GOOD CLER	MEAS
14	-0.39	0	-0.08 2	FAIR LGDB	MEAS
14	0.38	0	0.03 2	FAIR LGDB	MEAS
14	-0.13	0	-0.01 1.7	GOOD CLER	MEAS
14	0	-3.25	0 1.25	GOOD CLER	MEAS
14	0	4.22	0 1.5	GOOD CLER	MEAS
14	0	0.718	0 2	GOOD CLER	MEAS
14	-0.4	-2.2	0 2.2	GOOD CLER	MEAS
14	-0.2	-1.6	0.02 1.6	GOOD CLER	MEAS
14	-0.18	1.6	-0.01 2	GOOD CLER	MEAS
14	-0.18	1.8	0 2.5	GOOD MDDB	MEAS
14	-0.18	0.08	0 2	GOOD LGDB	MEAS
14	0	-1.8	-0.02 1.5	GOOD CLER	MEAS
14	0	-3	-0.09 1.83	GOOD CLER	MEAS
14	0	5	0.08 3	EXCL CLER	MEAS
14	0	5.05	0.04 2	EXCL CLER	MEAS
14	0	-2.8	-0.06 1.75	GOOD CLER	MEAS
14	0	-3.8	-0.09 3	GOOD CLER	MEAS
14	0	1.1	-0.02 2.75	GOOD CLER	MEAS
13	-0.28	-0.05	1.83 GOOD	MEAS	
13	-0.07	0.01	3.75 GOOD	MEAS	
13	-0.18	-0.01	3.75 GOOD	MEAS	
13	0.13	0.08	2.5 GOOD	CLER MEAS	

13	-0.1	2.75	GOOD SICE	MEAS		
13	0.02	0	FAIR CLER	MEAS		
13	-0.25	FAIR	CLER MEAS			
13	-0.2	UNSP	CLER MEAS			
9.16	13	0.14	GOOD CLER	MEAS		
13	0.25	-0.01	1.5 FAIR	CLER MEAS		
13	0.46	GOOD	CLER MEAS			
13	0.4	GOOD	CLER MEAS			
13	0	-2.6	-0.12 1.8	UNSP CLER	MEAS	
13	0	2.3	GOOD CLER	MEAS		
13	0.24	0.08	2.2 GOOD	CLER MEAS		
13	-0.09	-3.5	GOOD CLER	MEAS		
13	0.21	GOOD	CLER MEAS			
13	0.26	0	1.83 GOOD	CLER MEAS		
13	0	0.6	0.02 3	GOOD CLER	MEAS	
13	0	0.4	0 3.5	GOOD CLER	MEAS	
13	0	-0.8	-0.04 4	GOOD CLER	MEAS	
13	0	1	GOOD CLER	MEAS		
13	0	-2.7	0.07 4	GOOD CLER	MEAS	
13	-0.9	0.04	1.7 FAIR	SICE MEAS		
13	0	1	GOOD CLER	MEAS		
13	0	0	GOOD CLER	MEAS		
9	-0.17	-3.1	-0.06 1.75	FAIR CLER	MEAS	
9	-0.15	0	GOOD CLER	MEAS		
9	-0.21	0	GOOD CLER	MEAS		
9	-0.18	0	0 1.75	GOOD CLER	MEAS	
9	-0.01	-0.1	0.15 2.5	GOOD CLER	MEAS	
9	-0.15	0	0 1.42	GOOD CLER	MEAS	
9	-0.23	-2.9	UNSP CLER	MEAS		
9	-0.23	-0.1	-0.06 3.2	GOOD CLER	MEAS	
6.63	9	-0.23	1.4 0.06	1.6 GOOD	CLER	MEAS
6.52	9	-0.23	0.1 GOOD	CLER MEAS		

6.52	9	-0.23	-0.4 0.01	1.25 GOOD	MEAS	
4.71	9	-0.23	2.6 GOOD	CLER MEAS		
8.31	9	-0.23	1.1 0.05	1.7 GOOD	CLER	MEAS
6.29	9	0	-1.5 0.01	1.6 GOOD	CLER	MEAS
7.86	9	0	-3.1 0.19	1.9 GOOD	CLER	MEAS
5.18	9	0	4 -0.06	1.7 FAIR	CLER	MEAS
6.11	9	0	3.7 0	2 GOOD	CLER	MEAS
12.53	9	0	1.25 GOOD	CICE MEAS		
4.8	9	0	0.7 0.05	1.6 GOOD	CLER	MEAS
6.31	12	-0.48	GOOD CLER	MEAS		
6.85	12	-0.1	-2.2 GOOD	CLER MEAS		
5.81	12	-0.1	3.6 0.04	1.25 GOOD	MEAS	
6.56	12	-0.1	FAIR MEAS			
8.49	12	-0.1	-4.1 0.01	1.8 GOOD	CLER	MEAS
7.51	12	-0.1	1.6 0.03	GOOD CLER	MEAS	
8.36	12	-0.15	-0.7 0.03	2 GOOD	CLER	MEAS
6.66	12	-0.15	-1.8 GOOD	LGDB MEAS		
5.5	12	-0.15	-0.1 0	1.4 GOOD	CLER	MEAS
5.07	-0.15	0.1	0.02 1.5	GOOD CLER	MEAS	
6.68	12	-0.15	0 0.05	1.75 GOOD	CLER	MEAS
12.05	12	-0.02	1.4 GOOD	CICE MEAS		
4.6	12	0	1.3 0.14	1.5 GOOD	CLER	MEAS
6.87	12	0	-4.5 0.11	2.57 UNSP	UNSP	
8.04	12	0	-1.3 -0.03	1.58 GOOD	UNSP	
5.74	12	0.11	UNSP UNSP			
5.64	12	0	1.1 GOOD	UNSP		
7.52	12	0	5.4 UNSP	UNSP		
9.32	12	0	-0.3 0.08	1.92 GOOD	UNSP	
12.69	12	-6.34	0.22 2.1	UNSP UNSP		
9.33	12	0	1.5 0.04	2.2 GOOD	UNSP	
9.25	12	0	-5 0.13	3.9 FAIR	UNSP	
6.55	12	0	1.4 0.05	1.5 GOOD	UNSP	
5.5	12	0	-8.1 0.11	3.1 FAIR	UNSP	
6.62	12	0	-3.2 -0.06	1.5 GOOD	UNSP	
7.43	12	0	-2 0.03	1.4 GOOD	UNSP	
7.63	12	0	0.4 0	1.6 GOOD	UNSP	
8.24	12	0	1.1 -0.07	2.8 FAIR	UNSP	
12.72	12	-3.2	0.04 1.5	FAIR UNSP		
12.91	12	-4.11	0.05 1.5	GOOD UNSP		
4.31	12	0	-0.6 0.04	1.5 UNSP	UNSP	
5.26	12	-0.29	0.09 1.9	UNSP UNSP		
6.84	12	-0.04	0.02 2.2	GOOD UNSP		
8.95	12	0	0.2 0.04	2.33 GOOD	UNSP	
7.93	12	0.28	0.02 1.75	UNSP UNSP		
5.28	12	0.32	0.15 2.25	GOOD UNSP		
5.39	12	-0.13	0.01 1.6	FAIR UNSP		
8.8	12	0	3.9 0.02	2.1 GOOD	UNSP	

11.81	12	-3.09	0.01 1.75	FAIR UNSP	
7.73	12	-0.02	0.03 1.9	UNSP UNSP	
7.46	12	0	1.6 0.07	1.7 GOOD	UNSP
7.01	12	0	-0.1 0.08	1.9 GOOD	UNSP
7.62	12	0	0.5 0.1	1.67 GOOD	UNSP
8.6	12	0	1.4 0.05	1.92 GOOD	UNSP
6.2	12	0	-2.4 0.06	1.83 GOOD	UNSP
5.73	12	0	4.4 -0.02	2.25 GOOD	UNSP
5.84	12	0	8.5 0.08	1.3 GOOD	UNSP
6.49	12	0	4.1 0.11	2.3 GOOD	UNSP
12.08	12	-3.14	0.07 1.5	FAIR UNSP	
12.03	12	-3.71	UNSP UNSP		
12.6	12	-5.6	0.05 2	GOOD UNSP	
13.45	12	-7.11	-0.01 1.17	UNSP UNSP	
4.42	12	0	0.05 1.5	FAIR UNSP	
4.49	12	0	-0.1 -0.02	1.67 UNSP	UNSP
4.81	12	0	-1.5 0	1.8 GOOD	UNSP
5.34	9	0.3	2.4 0.13	2 GOOD	UNSP
6.44	9	0.3	1.9 0.23	2.58 GOOD	UNSP
6.99	9	0.3	-0.5 0.28	3.08 UNSP	UNSP
8.84	9	0.3	-0.6 0.02	2.5 GOOD	UNSP
10.78	9	0.3	-2.2 0	2.5 GOOD	UNSP
9.24	9	0.3	2 0.01	1.58 GOOD	UNSP
12.85	9	-3.79	0.04 1.25	FAIR UNSP	
12.54	9	-3.04	0.02 2.67	FAIR UNSP	
12.5	9	-3.08	0.04 1.58	FAIR UNSP	
12.83	9	-4.13	0.04 1.58	FAIR UNSP	
12.27	9	-3.31	0.08 1.75	FAIR UNSP	
11.35	9	-4.79	0.08 2.5	POOR UNSP	
9.61	9	0	-2.5 0	2.33 GOOD	UNSP
9.44	9	0	-1.8 0	2.67 UNSP	UNSP
9	9	0	0.6 0.02	1.67 GOOD	UNSP
11.03	9	0	0.2 0	1.8 GOOD	UNSP
9.83	9	0	0.3 0.02	1.67 UNSP	UNSP
7.52	9	0	-4.9 0.08	1.25 GOOD	UNSP
6.01	9	0	2.2 0.05	1.42 GOOD	UNSP
6.57	9	0	-3.9 0.03	1.6 GOOD	UNSP
12.03	11	-3.89	0.07 1.25	FAIR UNSP	
11.34	11	-3.21	0.08 1.25	UNSP UNSP	
11.86	11	-4.94	0.06 1.33	UNSP UNSP	
3.9	11	0	-0.8 0.1	1.78 GOOD	UNSP
4.91	11	0	3 0.14	2 UNSP	UNSP
5.23	11	0	UNSP UNSP		
5.25	11	0	-3.4 0.07	1.7 GOOD	UNSP
4.84	11	0	0 0.16	2.5 GOOD	UNSP
5.42	11	0	1.6 0.04	2 GOOD	UNSP
5.5	11	0	0 0.04	2.41 GOOD	UNSP

5.13	11	0	-0.6 0.04	1.78 GOOD	UNSP
6.46	11	0	-6.6 -0.05	1.08 UNSP	UNSP
11.72	11	-3.91	GOOD UNSP		
12.15	11	-4.41	FAIR UNSP		
9.36	11	0	-2.5 0.03	1.42 GOOD	UNSP
6.85	11	0	0 0.3	1.67 GOOD	UNSP
7.62	10	0	-2.3 0.12	2.5 GOOD	UNSP
8.9	10	0	-2.8 0.12	0.75 GOOD	UNSP
10.17	10	0	-0.9 0	2 GOOD	UNSP
9.65	10	0	-2.8 0.04	1.83 GOOD	UNSP
10.41	10	0	-1.1 0	1.5 GOOD	UNSP
10.29	10	0	-0.6 0	1.92 GOOD	UNSP
9.04	10	0	0.6 0	GOOD UNSP	
8.95	10	0	0.4 0	2 FAIR	UNSP
12.9	10	-2.92	0.04 1.67	UNSP UNSP	
13	10	-3.85	0.02 1.25	UNSP UNSP	
9.12	10	0	1.8 0.08	1.75 GOOD	UNSP
9.2	10	0	4.4 0.05	1.58 UNSP	UNSP
8.7	10	0	4.3 0.05	1.67 GOOD	UNSP
8.24	10	0	0.2 0.03	2 GOOD	UNSP
10.07	10	0	0.9 0	2 GOOD	UNSP
9.91	9	0.8	UNSP UNSP		
13.04	9	0	-0.3 -0.04	2 GOOD	UNSP
14.03	9	0	-1.2 0	1.75 GOOD	UNSP
14.22	9	0	1.5 0	1.58 GOOD	UNSP
13.82	9	0	-1.5 0.01	2.17 GOOD	UNSP
10.9	9	0	1.2 0	2.08 GOOD	UNSP
10.47	9	0	-1.2 GOOD	UNSP	
9.25	9	0	1.4 0	1.75 GOOD	UNSP
6.76	9	0	-1.8 0.08	2.33 GOOD	UNSP
11.1	9	-4.17	0.04 1.42	GOOD UNSP	
11.61	9	-2.95	0.02 2.17	GOOD UNSP	
12.29	9	-4.03	0.04 1.25	FAIR UNSP	
7.3	8	0	-2.7 0.12	1.5 FAIR	UNSP
6.81	8	0	1.3 0.08	1.33 GOOD	UNSP
7.86	8	0	1.8 0.06	1.5 GOOD	UNSP
7.87	8	0	-0.3 0.07	1.66 GOOD	UNSP
8.3	8	0	-0.1 0.04	1.75 GOOD	UNSP
8.46	8	0	1.7 0.03	2 UNSP	UNSP
3.43	8	0	0.1 -0.04	1.17 UNSP	UNSP
4.7	8	0	-0.8 -0.03	2 UNSP	UNSP
8.76	8	0	-1 0.02	2 GOOD	UNSP
8.62	8	0	-2.1 -0.06	2.25 GOOD	UNSP
8.17	8	0	-0.8 0.05	2 GOOD	UNSP
7.39	8	0	1.3 0.05	1.75 GOOD	UNSP
8.03	8	0	1 0.08	1.67 GOOD	UNSP
7.44	8	0	-0.8 0	2 GOOD	UNSP

7.7	8	0	0.5	0.04	1.42	GOOD	UNSP
6.66	8	0.46	0.07	1.33	GOOD	UNSP	
7.35	8	0	3.6	0.05	1.5	GOOD	UNSP
10.18	8	-1.89	-0.03	1.58	GOOD	UNSP	
8.81	8	0	-0.7	0.11	1.5	GOOD	UNSP
11.19	8	-2.88	0.08	1.5	UNSP	UNSP	
12.56	8	-3.96	0.02	1.5	UNSP	UNSP	
12.28	8	-5.04	0.08	1.67	UNSP	UNSP	
7.37	8	-0.08	0.1	1.58	GOOD	UNSP	
5.97	8	0.4	0.08	1.5	GOOD	UNSP	
6.44	8	0.12	0	1.83	GOOD	UNSP	
5.82	8	0	1.3	0.07	2.17	GOOD	UNSP
6.49	7	0	1	0	1.83	GOOD	UNSP
7.26	7	0	-1.7	0	2	GOOD	UNSP
6.31	7	0	1	0	1.75	GOOD	UNSP
6.34	6	-0.54	-0.01	2	GOOD	UNSP	
6.3	6	-0.32	0.01	1.67	GOOD	UNSP	
5.85	6	-0.2	0.5	0.05	1.67	GOOD	UNSP
5.51	6	-0.2	0.6	0.07	1.67	GOOD	UNSP
5.3	6	-0.1	0.6	0.09	1.67	GOOD	UNSP
5.4	6	-0.1	-0.6	0.02	1.67	GOOD	UNSP
4.97	6	0	0.6	0.09	1.5	GOOD	UNSP
7.56	6	-0.3	0.05	1.58	GOOD	UNSP	
7.21	5	-0.32	0.05	1.58	GOOD	UNSP	
7.77	5	-0.37	0.12	1.58	GOOD	UNSP	
9.02	5	-1.08	0	2	UNSP	UNSP	
10.05	5	-3.01	-0.02	1.33	GOOD	UNSP	
10.39	5	-2.87	0.06	2.67	GOOD	UNSP	
11.36	5	-3.28	0.03	1.17	GOOD	UNSP	
11.16	5	-3.8	0.04	0.92	GOOD	UNSP	
12.5	5	-5.95	0.04		1.25	FAIR	UNSP
6.37	5	0	3.8	0.07	1.25	FAIR	UNSP
6.96	5	0	-1.7	-0.04	2	GOOD	UNSP
7.68	5	0	-2.2	0.03	2.33	GOOD	UNSP
6.57	5	0	-2.2	0.1	1.75	GOOD	UNSP
6.17	5	0	3.9	0.13	1.83	GOOD	UNSP
6.53	5	0.13	0.08	1.33	GOOD	UNSP	
6.36	5	0.08	0.07	1.25	GOOD	UNSP	
7.43	5	-0.13	0.07	1.08	GOOD	UNSP	
7.26	4	0.22	0.09	0.92	GOOD	UNSP	
7.46	4	-0.07	-0.14	1.17	GOOD	UNSP	
9.1	4	-0.64	0.02	1.42	GOOD	UNSP	
9.36	4	-0.47	0.07	1.83	GOOD	UNSP	
10.34	4	-0.62	-0.01	1	GOOD	UNSP	
10.63	4	-0.5	0	1.42	GOOD	UNSP	
10.63	4	-0.64	-0.01	1.08	GOOD	UNSP	
10.58	4	-0.56	0	1.25	GOOD	UNSP	

10.56	4	-0.17	0	1.25	GOOD	UNSP
10.21	4	-0.3	-0.02	2.17	GOOD	UNSP
10.09	4	-0.22	-0.01	2.33	GOOD	UNSP
10.12	4	-0.15	-0.01	1.17	GOOD	UNSP
10.01	4	-0.18	-0.02	1.67	GOOD	UNSP
10.26	4	-0.33	-0.01	1.25	GOOD	UNSP
10.28	4	-0.45	0.03	1.92	GOOD	UNSP
10.38	4	-0.33	-0.02	1.5	GOOD	UNSP
10.42	4	-0.7	-0.01	1.08	GOOD	UNSP
9.39	4	-0.35	0.06	1.08	GOOD	UNSP
14.14	4	-5.15	-0.03	1.25	FAIR	UNSP
12.08	4	-3.42	0.04	2	GOOD	UNSP
12.21	4	-3.65	0.05	2.5	UNSP	UNSP
11.28	4	-3.79	0.06	1.2	GOOD	UNSP
11.62	4	-3.81	0.02	1.17	UNSP	UNSP
11.69	4	-3.25	0	1.2	FAIR	UNSP
11.4	4	-3.3	-0.02	1.33	UNSP	UNSP
11.94	4	-3.4	-0.02	1.75	FAIR	UNSP
12.57	4	-3.65	0.08	2.33	GOOD	UNSP
12.84	4	-4.47	0.02	1.92	GOOD	UNSP
12.37	4	-4.9	0.04	1.33	GOOD	UNSP
12.11	4	-5.69	0.03	1.25	GOOD	UNSP
12.42	4	-7.03	0	1.25	UNSP	UNSP
7.92	4	-2.15	0.31	2.17	FAIR	UNSP
8.09	4	0.06	-2.3	-0.04	1.67	GOOD UNSP
8	4	0.06	-0.3	0	1.25	GOOD UNSP
7.84	4	0.06	0.3	0.04	1.33	GOOD UNSP
6.89	4	0.06	-1.3	-0.02	1.83	GOOD UNSP
6.78	4	0.06	-3.9	0	1.42	GOOD UNSP
6.49	4	0.06	-3.2	-0.06	1	GOOD UNSP
6.98	4	0.06	3.3	0.12	1	GOOD UNSP
7.17	4	0.06	-7.9	-0.04	1.42	GOOD UNSP
6.87	4	0.06	2.5	0.25	3	GOOD UNSP
6.79	4	0.06	-1.3	-0.06	2.25	GOOD UNSP
7	4	0.06	-7.8	-0.05	1.17	GOOD UNSP
7.01	4	0.06	-0.3	0.08	1.42	GOOD UNSP
7.47	4	0.06	-2.2	0.03	1.83	GOOD UNSP
6.7	4	0.06	4.9	0.14	1.33	GOOD UNSP
7.98	4	0.06	-1.3	-0.04	1.26	GOOD UNSP
7.74	4	0.06	0.5	0.05	1.92	GOOD UNSP
8.05	4	-0.3	-0.7	0.12	2.33	FAIR UNSP
7.86	4	-0.3	-0.3	0.1	1.33	GOOD UNSP
8.22	4	-0.3	4.8	0.14	1.92	GOOD UNSP
9.16	4	-0.3	-1.1	0.07	2.75	GOOD UNSP
10.34	4	-0.8	-1.7	0.01	1.42	GOOD UNSP
10.43	4	-0.8	2	0	1.58	GOOD UNSP
10.32	4	-0.8	2.8	-0.01	2	GOOD UNSP

10.37	4	-0.8	2	0.02	2.75 GOOD	UNSP
10.22	4	-0.8	-1.6	0.02	1.58 GOOD	UNSP
9.3	4	-0.4	1.5	-0.02	1.17 GOOD	UNSP
10.05	4	-0.4	0.7	0.02	1.5 GOOD	UNSP
9.63	4	-0.4	0.9	0.03	1.25 GOOD	UNSP
10.54	4	-0.4	-0.8	0.02	1.42 GOOD	UNSP
10.58	4	-0.4	1.1	-0.01	1.58 GOOD	UNSP
10.49	4	-0.4	-2	0	1.5 GOOD	UNSP
10.35	4	-0.4	-3.7	-0.03	1.5 GOOD	UNSP
10.34	4	-0.4	2	-0.02	1.67 GOOD	UNSP
10.18	4	-0.4	0.6	0	1.75 GOOD	UNSP
8.9	4	-0.4	-2.6	0	1.5 GOOD	UNSP
8.89	4	-0.4	1	0.04	2.08 GOOD	UNSP
9.47	4	-0.98	-0.02	1.42 GOOD	UNSP	
12.21	4	-3.04	0.02	0.58 GOOD	UNSP	
11.05	4	-3.39	0.02	0.92 GOOD	UNSP	
11.14	4	-3.17	0.03	1.08 UNSP	UNSP	
11.08	4	-3.53	0	0.83 GOOD	UNSP	
11.26	4	-3.4	0.02	1.5 UNSP	UNSP	
11.45	4	-3.74	0.04	1.33 GOOD	UNSP	
11.57	4	-3.95	0.02	1.17 GOOD	UNSP	
12.79	4	-4.67	0.01	1.5 GOOD	UNSP	
12.1	4	-4.15	0.02	1.33 GOOD	UNSP	
12.37	4	-4.49	0.01	1.08 FAIR	UNSP	
11.55	4	-4.24	0.07	3.92 UNSP	UNSP	
8	4	-0.34	0.01	0.75 GOOD	UNSP	
8.77	4	-0.49	-0.13	2 GOOD	UNSP	
8.68	4	0	-1.2	-0.01	1 GOOD	UNSP
8.86	4	0	0.8	0.03	1.08 GOOD	UNSP
7.87	4	0	-0.9	0	1.42 GOOD	UNSP
7.9	4	0	-5.6	-0.06	1.5 GOOD	UNSP
8.06	4	0	-0.6	0.03	1.42 GOOD	UNSP
8.08	4	0	2.3	0.01	1.33 GOOD	UNSP
7.61	4	0	2.4	0.01	1.33 GOOD	UNSP
7.11	4	0	2.2	-0.12	1.25 GOOD	UNSP
6.97	4	0.2	2	0	1 GOOD	UNSP
7.08	4	0.2	-0.4	0.05	1.08 GOOD	UNSP
6.26	4	0.2	0	0.05	1.33 GOOD	UNSP
6.39	4	0.2	-0.5	0.03	1.25 GOOD	UNSP
6.14	4	0.2	2.4	0.06	1.17 GOOD	UNSP
7.76	4	0.2	-0.3	0.12	2 GOOD	UNSP
8.03	4	0.1	-1.7	0.05	1.75 GOOD	UNSP
8.05	4	0.1	0	0.02	1.5 GOOD	UNSP
7.37	4	0	-0.4	0	1.33 GOOD	UNSP
7.94	4	-0.1	-2.8	0.02	1.17 GOOD	UNSP
8.54	4	-0.15	-1.9	0	1.42 GOOD	UNSP
8.6	4	-0.15	-0.3	0.03	1.5 GOOD	UNSP

7.82	4	-0.15	-1.8	0.03	1.17 GOOD	UNSP
8.22	4	-0.15	0	0.01	1.33 GOOD	UNSP
7.87	4	-0.15	1.1	-0.01	1.5 GOOD	UNSP
9.39	4	-0.15	-2.5	-0.01	1.5 GOOD	UNSP
8.62	4	-0.15	-1.6	-0.02	1 GOOD	UNSP
8.96	4	-0.15	0	0.01	1.75 GOOD	UNSP
7.55	4	-0.15	5.7	0.11	1.33 GOOD	UNSP
9.6	4	-0.3	0.5	0	1 GOOD	UNSP
8.57	4	-0.6	0.3	-0.02	1.17 GOOD	UNSP
7.6	4	-0.96	0	0	0.92 GOOD	UNSP
6.07	4	-0.3	0	-0.05	1.17 GOOD	UNSP
10.08	4	-0.1	-0.2	-0.05	2 GOOD	UNSP
8.5	4	0.3	-0.3	-0.02	1.08 GOOD	UNSP
7.78	4	0.3	0	0.06	1.33 GOOD	UNSP
6.18	4	-0.15	0.5	-0.09	1.75 GOOD	UNSP
6.58	4	-0.15	0.5	0.02	2.08 GOOD	UNSP
5.97	4	-1.14	-0.01	0.92 GOOD	UNSP	
8.4	4	-2.66	-0.02	0.75 GOOD	UNSP	
10.3	4	-2.76	0.01	0.75 GOOD	UNSP	
11.46	4	-3.15	0.03	1.08 GOOD	UNSP	
11.57	4	-3.29	0.02	1 GOOD	UNSP	
11.55	4	-3.54	0	1.42 GOOD	UNSP	
11.18	4	-4.29	0	1.17 GOOD	UNSP	
13.09	4	-4.29	0.02	2 GOOD	UNSP	
12.64	4	-5.36	0.01	1.42 GOOD	UNSP	
12.55	4	-5.59	0	1.5 GOOD	UNSP	
12.53	4	-5.87 UNSP	UNSP			
12.76	4	-6.43	0.34	3.67 UNSP	UNSP	
9.3	4	0.05	-2.2	0.09	1.42 UNSP	UNSP
9.84	4	0.05	0.2	0.01	1.66 GOOD	UNSP
9.07	4	0.05	2	0.03	1.67 GOOD	UNSP
6.03	4	0.05	4.5	0.07	1.75 GOOD	UNSP
6.41	4	0.05	1.9	0.08	1.25 GOOD	UNSP
7.84	4	0.05	-3.1	0	1.42 GOOD	UNSP
8.43	4	0.05	-0.3	0.06	1.5 GOOD	UNSP
7.86	4	0.05	-3.1	0.04	1.42 GOOD	UNSP
6.51	4	0.2	5.3	-0.05	0.92 GOOD	UNSP
6.84	4	0.2	0.8	-0.01	1.17 GOOD	UNSP
7.6	4	0.2	-2.5	0.13	1.5 GOOD	UNSP
7.16	4	0.2	-1.9	0.04	1.17 GOOD	UNSP
6.29	4	0.2	6.5	-0.04	1 GOOD	UNSP
6.9	4	0.2	0.4	0	1.42 GOOD	UNSP
7.54	4	0.2	2.2	-0.03	1.25 GOOD	UNSP
8.34	4	0.2	0	-0.01	1.33 GOOD	UNSP
8.66	4	0.25	0.6	0	1.33 GOOD	UNSP
8.57	4	0.25	-2.1	0	1.33 GOOD	UNSP
8.44	4	0.25	-1.5	0	1.33 GOOD	UNSP

7.92	4	0.3	1.3	0.01	1.33 GOOD	UNSP
8.16	4	0.3	-3.1	0.07	1.75 GOOD	UNSP
8.87	4	0.3	0.6 GOOD	UNSP		
8.79	4	0.3	0.3	0.05	1.58 GOOD	UNSP
7.44	4	0.3	-1.8	-0.03	1.42 GOOD	UNSP
5.63	4	0.4	1.5	-0.01	1 GOOD	UNSP
4.68	4	0.4	0	0	0.92 GOOD	UNSP
4.2	4	0.4	0	-0.03	0.92 GOOD	UNSP
4.36	4	0.3	-2.1	-0.04	0.83 GOOD	UNSP
5.27	4	0.3	-2.8	-0.04	1 GOOD	UNSP
6.38	4	0.3	-0.4	-0.02	1.08 GOOD	UNSP
6.51	4	0.3	-0.4	0.03	1.25 GOOD	UNSP
6.04	4	0.2	-3.4	-0.04	1.17 GOOD	UNSP
6.3	4	0.1	0	-0.04	1.17 GOOD	UNSP
7.26	4	0.05	0	-0.04	1.17 GOOD	UNSP
7.78	4	0	0	0.03	1.83 GOOD	UNSP
8.67	4	0	-7.6	-0.01	1.92 GOOD	UNSP
8.01	4	0	-5.1	-0.1	2.33 GOOD	UNSP
7.23	4	0	0.8	-0.02	1.42 GOOD	UNSP
10.4	4	0	-3.8	-0.02	1.42 UNSP	UNSP
11.24	4	0	-2.8	-0.01	1.33 GOOD	UNSP
7.39	4	0.23	2.9	0.02	1.25 GOOD	UNSP
7.65	4	0.23	-2.1	-0.03	1.67 GOOD	UNSP
9.82	4	-0.78	-0.12	1.5 GOOD	UNSP	
12.9	4	-3.53	-0.04	2.25 GOOD	UNSP	
12.62	4	-3.96	0.03	1.08 GOOD	UNSP	
12.61	4	-3.64	-0.01	2.5 GOOD	UNSP	
12.84	4	-3.7	-0.02	1.75 UNSP	UNSP	
12.83	4	-3.61	0.01	1.33 GOOD	UNSP	
12.51	4	-3.44	-0.02	1.5 GOOD	UNSP	
12.34	4	-3.71	-0.02	1.5 UNSP	UNSP	
12.45	4	-3.6	0.04	3.33 GOOD	UNSP	
12.54	4	-3.1	0.01	2.5 FAIR	UNSP	
12.49	4	-3.45	0.03	1.83 UNSP	UNSP	
12.61	4	-3.42	0.02	2.25 GOOD	UNSP	
12.83	4	4.95	0	1.83 UNSP	UNSP	
9.65	4	-2.86	-0.06	1.75 GOOD	UNSP	
9.64	4	0.1	3.8	0.02	1.33 GOOD	UNSP
8.59	4	0.1	-3.3	-0.02	1.5 GOOD	UNSP
7.37	4	0.1	2.3	-0.02	1.25 GOOD	UNSP
6.93	4	0	-0.4	-0.06	1.42 GOOD	UNSP
6.66	4	0	5.3	0.17	1.25 GOOD	UNSP
6.74	4	0	-1.3	-0.06	1.42 GOOD	UNSP
7.59	4	0	-2.6	-0.03	1.67 GOOD	UNSP
8.37	4	0	-2.9	0	1.42 GOOD	UNSP
9.37	4	0	-2.4	0	1.58 GOOD	UNSP
9.01	4	0.1	1.4	-0.04	1.42 GOOD	UNSP

9.49	4	0.1	-1.8	-0.04	1.5 GOOD	UNSP
8.17	4	0.1	-3.6	0.01	1.33 GOOD	UNSP
6.17	4	0.1	1.9	-0.01	1.25 GOOD	UNSP
5.61	4	0.1	0	-0.02	1.17 GOOD	UNSP
5.78	4	0.1	-3.1	-0.01	1.5 GOOD	UNSP
8.17	4	0.1	-4.2	-0.02	1.25 GOOD	UNSP
5.5	4	0.1	-2.2	-0.1	1.25 GOOD	UNSP
5.24	4	0.1	-0.6	-0.05	1.17 GOOD	UNSP
6.96	4	0.1	-2.9	-0.05	1.25 GOOD	UNSP
5.3	4	0.25	-0.6	-0.06	1.17 GOOD	UNSP
5.93	4	0.25	-1.5	-0.02	1.25 GOOD	UNSP
4.52	4	0.25	0.7	-0.03	1.17 GOOD	UNSP
4.92	4	0.25	2.5	-0.01	1.58 GOOD	UNSP
4.75	4	0.25	2.6 GOOD	UNSP		
4.35	4	0.1	0.7	0	1.08 GOOD	UNSP
5.4	4	0.1	1.1	-0.01	1.08 GOOD	UNSP
5.13	4	0.1	-4.8	0.08	1.5 GOOD	UNSP
5	4	0.1	-2.5	0.01	0.92 GOOD	UNSP
6.86	4	0.1	-7.5	-0.05	1.42 GOOD	UNSP
6.6	4	0.1	0	-0.01	1 GOOD	UNSP
6.45	4	0.1	2.3	-0.01	1.17 GOOD	UNSP
6.48	4	0.1	0.5	-0.04	1.75 GOOD	UNSP
5.22	4	0.2	1.7	0.01	1.33 GOOD	UNSP
6.13	4	0.2	-4.3	0.01	1.25 GOOD	UNSP
7.46	4	0.2	-1.1	0.04	1.67 GOOD	UNSP
7.57	4	0.2	1.1	0.06	1.5 GOOD	UNSP
2.7	4	-0.3	-0.1	0	1.75 GOOD	UNSP
2.77	4	-0.3	0.4	0	1.5 UNSP	UNSP
3.17	4	-0.3	-2.8	0.06	1.5 GOOD	UNSP
7.17	4	-0.3	1.7	-0.02	1.17 GOOD	UNSP
10.48	4	-2.75	-0.02	0.83 UNSP	UNSP	
12.37	4	-3.5	-0.01	1.08 GOOD	UNSP	
11.98	4	-2.97	-0.04	1.17 FAIR	UNSP	
11.4	4	-2.62	0	1.33 GOOD	UNSP	
11.15	4	-3.09	-0.08	2.25 FAIR	UNSP	
11.27	4	-2.94	-0.02	1.5 UNSP	UNSP	
11.1	4	-3.22	-0.03	2.08 GOOD	UNSP	
11.71	4	-3.87	0.03	1.58 UNSP	UNSP	
12.3	4	-4.08	0	2.08 FAIR	UNSP	
12.4	4	-5.42	-0.02	1.67 FAIR	UNSP	
12.36	4	-5.76	0.01	1.92 FAIR	UNSP	
12.07	4	-5.63	-0.04	1.75 FAIR	UNSP	
9.08	4	0	5.4	0.03	1.75 GOOD	UNSP
8.12	4	0	2	-0.02	1.42 GOOD	UNSP
8.74	4	0	1.8	0.01	1.83 UNSP	UNSP
6.08	4	0	11	-0.09	2.17 GOOD	UNSP
6.21	4	0	0.5	-0.06	1.83 GOOD	UNSP

7.07	4	0	2.9	-0.1	1.08 GOOD	UNSP
8.97	4	0	-2.9	0.01	2 GOOD	UNSP
7.74	4	0	5.4	0.25	1.83 UNSP	UNSP
7.69	4	0	-2.9	-0.18	2.83 GOOD	UNSP
8.33	4	0	1.9	0.04	1.25 GOOD	UNSP
8.04	4	0	4.1	0.14	1.5 GOOD	UNSP
6.13	4	0	2	0.06	2.42 UNSP	UNSP
4.34	4	-0.16	-3.9	0.07	1.25 GOOD	UNSP
4.88	4	-0.16	-4.8	0.19	2 GOOD	UNSP
7.27	4	0	2.4	-0.04	1.42 GOOD	UNSP
8.41	4	0	-4.1	-0.04	1.5 GOOD	UNSP
7.72	4	0	-1.1	0.09	1.92 GOOD	UNSP
9.5	4	0	1.6	-0.01	1.67 GOOD	UNSP
9.96	4	0	0.7	0	1.58 GOOD	UNSP
9.89	4	0	-3.2	0	1.83 GOOD	UNSP
9.7	4	0	-3	0	1.58 GOOD	UNSP
9.75	4	0	-0.3	0.01	1.5 GOOD	UNSP
9.75	4	0	3.3	0	1.75 GOOD	UNSP
9.63	4	0	1.5	-0.01	1.33 GOOD	UNSP
6.82	4	-0.3	0.5	-0.02	1.5 GOOD	UNSP
7.01	4	-0.3	4	-0.03	1.17 GOOD	UNSP
7.2	4	-0.3	-4.2	-0.06	1.17 GOOD	UNSP
8.7	4	0.25	2.6	0.04	1.75 GOOD	UNSP
8.04	4	0.25	5.2	0	1.25 GOOD	UNSP
4.63	4	0	0.7	-0.06	1.42 GOOD	UNSP
2.95	4	0	3.9	-0.06	1.42 GOOD	UNSP
2.69	4	0	-3.3	-0.02	1.42 GOOD	UNSP
3.61	4	0.1	0	0	1.75 GOOD	UNSP
3.44	4	0.15	4.5	0.02	0.92 GOOD	UNSP
3.6	4	0.2	-4.3	0	1.17 GOOD	UNSP
5.08	4	0.25	1.8	0	1.17 GOOD	UNSP
3.49	4	0	-5.6	-0.05	1.33 GOOD	UNSP
4.44	4	0.05	-4.3	0.02	1.42 GOOD	UNSP
8.18	4	0.2	1	-0.05	1.33 GOOD	UNSP
7.13	4	-0.58	-0.02	1.08 GOOD	UNSP	
11.73	4	-3.72	-0.06	1.5 GOOD	UNSP	
13.05	4	-3.93	-0.01	1.58 UNSP	UNSP	
13.03	4	-4.47	-0.01	1.83 GOOD	UNSP	
13	4	-3.99	0.01	2.67 GOOD	UNSP	
12.44	4	0	0.03	2.17 GOOD	UNSP	
12.41	4	-3.94	0.06	2.75 GOOD	UNSP	
11.66	4	-4.75	-5.1	-0.03	1.5 FAIR	UNSP
12.39	4	-4.57	-0.02	1.5 GOOD	UNSP	
13.34	4	-5.08	0	1.25 GOOD	UNSP	
11.5	4	-5.03	0.02	1.5 GOOD	UNSP	
13.03	4	-5.35	0.01	1.67 UNSP	UNSP	
9.28	4	-1.46	-0.02	1.17 GOOD	UNSP	

8.55	4	-1.93	0.02	1.33 UNSP	UNSP	
8.04	4	-0.3	5.7	-0.02	1.33 GOOD	UNSP
7.86	4	-0.3	-3.7	0	1.92 GOOD	UNSP
7.82	4	-0.3	-3	-0.03	1.33 GOOD	UNSP
6.77	4	-0.3	-0.5	0	1.92 GOOD	UNSP
6.9	4	-0.3	5.9	-0.04	1.75 GOOD	UNSP
7.49	4	-0.3	0.4	-0.07	1.5 FAIR	UNSP
6.77	4	-0.3	0.5	0.02	1.42 GOOD	UNSP
6.32	4	-0.3	2	-0.02	1.42 GOOD	UNSP
4.98	4	-0.3	1.4	0	1.42 GOOD	UNSP
4.68	3	0	-1.5	-0.03	1.33 GOOD	UNSP
5.28	3	0	1.3	0.06	1.5 GOOD	UNSP
5.41	3	0	3.7	0	1.17 GOOD	UNSP
5.97	3	0	0	0.02	1.25 GOOD	UNSP
6.6	3	0	-4.7	0	1.42 GOOD	UNSP
6.16	3	0	0	0.01	1.25 GOOD	UNSP
6.83	3	0	-2.2	0.02	1.83 GOOD	UNSP
5.3	3	0	-0.6	0.01	1.25 GOOD	UNSP
6.22	3	0	3.5	0.04	1.67 GOOD	UNSP
5.9	3	0	-0.33	0.01	1.5 GOOD	UNSP
6.24	3	0	0	-0.02	1.75 GOOD	UNSP
6.16	3	0	2.6	-0.05	1.83 GOOD	UNSP
5.37	3	0	4.3	0.01	1.33 GOOD	UNSP
6.24	3	0	-6.1	-0.04	1.58 GOOD	UNSP
4.08	3	0.36	0	0	1.42 GOOD	UNSP
3.47	3	0.6	3.5	0.04	1.58 GOOD	UNSP
3.49	3	0.6	2.6	0	1.33 GOOD	UNSP
3.47	3	0.6	0	-0.01	1.83 GOOD	UNSP
3.52	3	0.6	-0.9	-0.03	1.17 GOOD	UNSP
3.26	3	0.6	-0.9	0	2.08 GOOD	UNSP
3.11	3	0.55	-4.3	0.01	1.25 GOOD	UNSP
3.16	3	0.55	0	0	1 GOOD	UNSP
2.98	3	0.55	0.9	-0.02	2 GOOD	UNSP
3.06	3	0.55	-1.1	0.01	1 GOOD	UNSP
3.52	3	0.2	1	0	1.17 GOOD	UNSP
3.65	3	0.2	0	-0.04	1.25 GOOD	UNSP
5.03	3	-0.06	0	-0.07	1.58 GOOD	UNSP
7.85	3	-0.79	0.06	1.75 GOOD	UNSP	
11.63	-1.23	0.02	1.25 GOOD	UNSP		
11.32	-1.23	0.03	1.25 GOOD	UNSP		
11.98	-1.7	0	1.25 GOOD	UNSP		
12.12	-2.27	-0.01	1.42 GOOD	UNSP		
12.66	-1.9	-0.01	1.42 GOOD	UNSP		
12.82	-2.52	0.01	1.5 GOOD	UNSP		
12.8	-2.78	0.01	2 GOOD	UNSP		
12.26	-3.17	-0.03	2.5 FAIR	UNSP		
12.67	-3.58	-0.01	1.67 FAIR	UNSP		

10.92	-4.09	0.09	2 FAIR	UNSP		
8.26	3	1.73	-0.04	1.92 GOOD	UNSP	
6.13	3	0.6	0.05	1.5 GOOD	UNSP	
8.33	3	1.4	0.07	1.58 GOOD	UNSP	
8.33	3	1.4	-0.06	1.83 GOOD	UNSP	
8.34	3	1.4	0.04	1.67 GOOD	UNSP	
8.9	3	0.65	0.01	1.92 GOOD	UNSP	
8.78	3	0.2	-0.02	1.75 GOOD	UNSP	
8.69	3	0.1	0	0	1.83 GOOD	UNSP
8.06	3	0.1	-2.5	-0.04	1.67 GOOD	UNSP
8.06	3	0.1	3.9	-0.08	1.58 GOOD	UNSP
7.98	3	0.1	1.1	-0.03	1.92 GOOD	UNSP
6.99	3	0.1	0	-0.12	1.5 GOOD	UNSP
6.38	3	0	1	0	1.25 GOOD	UNSP
3.76	3	0	1.9	0	1.33 GOOD	UNSP
3.67	3	0	5.9	-0.01	1.5 GOOD	UNSP
3.77	3	0	1	0	1.33 GOOD	UNSP
4.54	3	0	4.6	-0.05	2.3 GOOD	UNSP
4.44	3	0	0.8	-0.02	1.75 UNSP	UNSP
3.97	3	0	0	-0.02	1.33 UNSP	UNSP
4.84	3	0	4.2	-0.02	1.08 UNSP	UNSP
5.25	3	0	1.9	0	1.42 UNSP	UNSP
5.23	3	0	-0.6	0.07	1.17 UNSP	UNSP
6.19	3	0	1.5	-0.06	2.5 UNSP	UNSP
8.49	3	0	0.3	0	1.33 UNSP	UNSP
7.26	3	0	2.1	0.01	1.58 UNSP	UNSP
6.97	3	0	3.9	-0.14	1.25 UNSP	UNSP
5.4	3	0	0	0.01	1.92 UNSP	UNSP
8.57	3	0	3.3	-0.03	1.5 UNSP	UNSP
8.58	3	0.49	-0.01 UNSP	UNSP		
8.53	3	0.58	0	1.5 UNSP	UNSP	
6.94	3	0.61	0.12	1.83 UNSP	UNSP	
7.55	3	1.3	0	1.75 UNSP	UNSP	
8.4	3	1.05	0.05 UNSP	UNSP		
4.36	3	0.76	-0.03	1.5 GOOD	UNSP	
6.84	3	0.29	-0.09	1.5 UNSP	UNSP	
4.29	3	0.71	-0.07	1.33 GOOD	UNSP	
6.18	3	0.95	0.02	1.67 GOOD	UNSP	
6.8	3	0.61	-0.03	1.55 GOOD	UNSP	
9.2	3	0.38	-0.1	2.25 GOOD	UNSP	
11.93	-1.29	0	1.08 GOOD	UNSP		
12.18	-1.09	0.03	1.17 GOOD	UNSP		
11.8	-0.86	0	1.08 UNSP	UNSP		
12.12	-1.45	-0.01	1.58 GOOD	UNSP		
12.31	-1.3	-0.01	1.17 GOOD	UNSP		
12.42	-1.3	0	1.33 GOOD	UNSP		
11.91	-0.97	0.04	1.33 GOOD	UNSP		

12.08	-1.29	0	1.25 GOOD	UNSP		
12.42	-1.72	0	1.08 GOOD	UNSP		
12.34	-1.81	-0.01	0.92 GOOD	UNSP		
12.41	-1.69	0	1.75 GOOD	UNSP		
12.27	-2.01	-0.01	1.08 GOOD	UNSP		
12.47	-2.21	0	1.5 GOOD	UNSP		
12.48	-2.28	-0.02	1.25 GOOD	UNSP		
12.68	-2.71	GOOD	UNSP			
12.54	-2.71	GOOD	UNSP			
9.67	-1.92	GOOD	UNSP			
11.17	-1.99	0	1.17 UNSP	UNSP		
8.59	3	0	-1.3	-0.02	1.75 GOOD	UNSP
7.13	3	-0.25	-4.4	0.03	1.58 GOOD	UNSP
6.76	3	-0.55	-5.1	-0.08	2.25 GOOD	UNSP
5.92	3	-0.25	-4.6	-0.05	1.75 GOOD	UNSP
5.7	3	0	-1.1	-0.01	2.75 GOOD	UNSP
3.05	3	0	2.4	0.23	2.25 GOOD	UNSP
2.63	3	-0.3	-0.04	1.08 GOOD	UNSP	
6.01	3	-0.09	-0.02	1.5 GOOD	UNSP	
5.93	3	-0.06	-11	1.67 UNSP	UNSP	
6.83	3	-0.15	-0.9	-0.06	1.92 GOOD	UNSP
6.88	3	-0.2	-1.8	-0.03	1.92 GOOD	UNSP
6.37	3	-0.2	0	-0.04	1.58 GOOD	UNSP
4.25	3	0.3	-5.3	0	1.25 GOOD	UNSP
4	3	0.35	0.8	-0.05	1.17 GOOD	UNSP
3.89	3	0.4	1.3	0.03	1.5 GOOD	UNSP
4.37	3	0.4	-0.7	-0.05	1.33 GOOD	UNSP
4.36	3	0.38	0	-0.03	1.42 GOOD	UNSP
4.39	3	0.3	-2.2	0.14	1.25 GOOD	UNSP
4.27	3	0.3	0.3	-0.04	0.92 GOOD	UNSP
4.36	3	0.3	-2.2	-0.02	1.5 GOOD	UNSP
4.3	3	0.3	-5.2	0	1.58 GOOD	UNSP
4.68	3	0.5	0	-0.01	1.42 GOOD	UNSP
7.29	3	0.05	-5.3	-0.07	2.17 GOOD	UNSP
7.7	3	0.05	0.8	-0.06	1.33 GOOD	UNSP
5.98	3	0.15	-1.5	-0.02	1.67 GOOD	UNSP
4.42	3	0.45	-2.1	0.01	1.25 GOOD	UNSP
3.42	3	0.45	3.7	0.02	1.17 GOOD	UNSP
3.56	3	0.45	-3.6	-0.03	1 UNSP	UNSP
6.27	3	0.15	-0.5	-0.04	1.42 UNSP	UNSP
6.56	3	0.15	0.4	0	1.75 GOOD	UNSP
5.94	3	0.15	-4.7	0	1.92 GOOD	UNSP
5.76	3	0.35	-0.6	0	1.5 FAIR	UNSP
6.61	3	0.4	0	0.02	1.33 GOOD	UNSP
6.72	3	0.4	-1.7	0.05	1.5 UNSP	UNSP
6.8	3	0.4	2.1	0.04	1.42 GOOD	UNSP
5.23	3	0.35	0.6	0.03	1.42 FAIR	UNSP

5.3	3	0.2	-4.8	0.03	1.25 GOOD	UNSP
7.51	3	0.3	-4.9	0.02	1.67 UNSP	UNSP
7.76	3	0.66	5.1	0.04	1.42 GOOD	UNSP
8.85	3	0.35	-4.9	-0.07	2.5 GOOD	UNSP
10.31	0	0.01	3.75 UNSP	UNSP		
11.54	-0.87	0.02	3 UNSP	UNSP		
10.09	-0.64	0.05	1.5 UNSP	UNSP		
11.22	-0.72	-0.01	5.58 FAIR	UNSP		
11.27	-0.85	-11	0.06	8 UNSP	UNSP	
11.33	-0.9	0.03	4 FAIR	UNSP		
11.18	-1.07	0.01	1.42 GOOD	UNSP		
11.5	-1.48	-0.01	1.66 UNSP	UNSP		
10.94	-1.63	0.01	2 UNSP	UNSP		
11.61	0	-0.01	1.25 UNSP	UNSP		
12.05	-3.05	-0.02	1.92 UNSP	UNSP		
12.85	-3.32	0.01	2 GOOD	UNSP		
13.32	-4.12	0.12	3.1 UNSP	UNSP		
8.13	3	0	-3.2	0.05	1.58 UNSP	UNSP
8.09	3	0	1.8	0	1.75 GOOD	UNSP
7.2	3	-0.05	-0.4	0.12	3.1 UNSP	UNSP
4.95	3	-0.1	-4.2	0.02	1.25 GOOD	UNSP
4	3	0.1	-0.9	0.04	1.25 GOOD	UNSP
3.94	3	0.1	-1.8	0	1.33 GOOD	UNSP
4.14	3	0.1	0	0	1.5 UNSP	UNSP
3.71	3	0.1	0	0.02	1.17 GOOD	UNSP
3.58	3	0.1	1	0	1.83 GOOD	UNSP
4.27	3	0.1	3.2	0.04	1.33 GOOD	UNSP
4.2	3	0.1	-1.6	-0.03	1.58 GOOD	UNSP
4.87	3	0.1	-3.4	-0.01	2.5 GOOD	UNSP
3.64	3	0.1	-1	0	1.42 UNSP	UNSP
2.31	3	0.1	-1.8	-0.03	1.75 GOOD	UNSP
2.38	3	0.05	0.2	-0.04	2.4 UNSP	UNSP
2.46	3	0	3.5	0.01	1 GOOD	UNSP
2.74	3	0	1.8	0.11	1.75 FAIR	UNSP
3.92	3	0	4.6	-0.02	1.16 GOOD	UNSP
4.56	3	-0.2	2.4	0.01	1.33 GOOD	UNSP
5.65	3	-0.2	-1.2	-0.13	1.58 GOOD	UNSP
7.8	3	-0.2	1.2	-0.03	1.67 GOOD	UNSP
4.65	3	-0.2	0	0.04	2.1 UNSP	UNSP
4.5	3	-0.2	4.9	-0.02	1.83 UNSP	UNSP
5.08	3	-0.2	-1.4	-0.04	1.5 GOOD	UNSP
4.47	3	-0.2	-3.2	-0.03	1.25 GOOD	UNSP
4.95	3	-0.2	2.9	0.06	1.33 GOOD	UNSP
6.67	3	-0.2	-1	0.02	1.67 GOOD	UNSP
4.22	3	-0.15	0.9	-0.07	1.5 GOOD	UNSP
2.48	3	0	-0.1	0	1.25 GOOD	UNSP
2.75	3	0	-0.8	-0.04	1.33 GOOD	UNSP

3.04	3	-0.05	-5.6	-0.09	1.25 UNSP	UNSP
2.85	3	-0.05	-1.7	-0.03	1.75 GOOD	UNSP
4.3	3	-0.1	-5.9	-0.08	1.25 GOOD	UNSP
6.8	3	0.8	0	0.02	1.75 GOOD	UNSP
2.93	3	0.1	0	-0.01	1.5 GOOD	UNSP
3.25	3	0.05	-1.5	0.03	1.25 GOOD	UNSP
4.3	3	0	-2.5	0.03	1.5 GOOD	UNSP
6.34	3	0.13	0	0.02	1.33 GOOD	UNSP
10.61	3	-3.88	0.01	1.33 GOOD	UNSP	
11.13	3	-3.95	-0.02	1.42 GOOD	UNSP	
10.72	3	-3.8	-0.02	1.58 GOOD	UNSP	
10.36	3	-3.58	-0.01	1.42 UNSP	UNSP	
10.18	3	-3.62	0.02	1.58 UNSP	UNSP	
9.39	3	-3.47	-0.01	1.33 GOOD	UNSP	
9.41	3	-3.44	0.01	1.75 UNSP	UNSP	
10.76	3	-3.91	0.05	2 UNSP	UNSP	
10.47	3	-4.03	0.02	1.92 UNSP	UNSP	
10.12	3	-4.03	0.1	3.42 UNSP	UNSP	
10.68	3	-4.64	-0.02	1.67 GOOD	UNSP	
9.41	3	-5.24	-0.02	3.67 FAIR	UNSP	
9.65	3	-5.29	0.02	1.67 UNSP	UNSP	
5.28	3	-0.12	0	0	1.33 GOOD	UNSP
5.1	3	-0.12	2	0.01	1.83 GOOD	UNSP
4.62	3	-0.12	0.8	0.01	1.42 GOOD	UNSP
3.66	3	-0.12	-2.1	-0.01	1.67 UNSP	UNSP
2.56	3	0.18	3.4	-0.04	1.17 GOOD	UNSP
2.2	3	0.18	-3.4	-0.02	1.08 GOOD	UNSP
2.32	3	0.2	10	-0.01	1.33 GOOD	UNSP
2.22	3	0.2	0	-0.05	3 GOOD	UNSP
2.34	3	0.2	-2	-0.03	2.25 GOOD	UNSP
2.93	3	0.2	-3.5	-0.21	1.5 UNSP	UNSP
2.82	3	0.22	5.96	-0.06	1.25 GOOD	UNSP
2.71	3	0.16	-0.5	-0.05	2 UNSP	UNSP
4.4	3	0.15	0	0.03	1.25 GOOD	UNSP
2.28	3	0.3	3.6	-0.02	2 GOOD	UNSP
2.16	3	0.24	0	-0.05	1.75 GOOD	UNSP
2.14	3	0.18	-6.3	-0.03	2.33 FAIR	UNSP
2.69	3	0.18	0.9	0.04	1.75 GOOD	UNSP
2.65	3	0.13	0	-0.06	2.08 GOOD	UNSP
2.22	3	0.02	-0.2	0.01	1.25 GOOD	UNSP
3.36	3	0	-2.1	-0.09	2.17 UNSP	UNSP
4.38	3	0	0.8	-0.16	2.42 GOOD	UNSP
3.19	3	0	-1.5	-0.04	1.58 GOOD	UNSP
5.23	3	0.14	0	-0.02	1.25 UNSP	UNSP
2.71	3	-0.03	0.1	-0.05	1.83 GOOD	UNSP
4.47	3	-0.03	0	-0.08	1.67 UNSP	UNSP
3.39	3	-0.24	0	0.01	1.5 GOOD	UNSP

3.95	3	-0.39	-2.2	0.02	1.92 UNSP	UNSP
8.02	3	-0.04	0	-0.17	4.75 UNSP	UNSP
8.16	3	0.02	0	-0.11	1.92 GOOD	UNSP
6.57	3	0.03	10	-0.09	2 UNSP	UNSP
7.65	3	0.03	0	0	2.5 GOOD	UNSP
7.18	3	0	-0.4	-0.01	1.58 GOOD	UNSP
7.1	3	0	0	0.02	2.33 UNSP	UNSP
5.24	3	0.23	0	-0.02	1.42 GOOD	UNSP
5.95	3	0.23	0	-0.16	2 GOOD	UNSP
6.92	3	0.23	-0.8	-0.07	2 GOOD	UNSP
6.16	3	0.3	2.9	-0.07	1.83 GOOD	UNSP
7.28	3	0.24	0	-0.01	1.83 GOOD	UNSP
6.56	3	0.31	0	0.03	1.83 GOOD	UNSP
10.01	2	-1.77	0	-0.11	2.08 GOOD	UNSP
9.6	2	-2.6	3.8	0.04	1.25 GOOD	UNSP
10.78	2	-3.13	0	0.01	1.25 GOOD	UNSP
10.57	2	-3.13	0	0.01	2 GOOD	UNSP
10.85	2	-3.13	-3.8	0.01	1.92 GOOD	UNSP
10.98	2	-3.08	2.8	0.01	1.42 GOOD	UNSP
11.01	2	-3.22	4.9	0.02	1.5 GOOD	UNSP
11.12	2	-3.42	0	0.01	2.5 UNSP	UNSP
11.28	2	-3.64	3	0.06	4.75 FAIR	UNSP
11.48	2	-4	5.7	0	5.17 UNSP	UNSP
11.18	2	-4.14	-12	-0.05	4.42 FAIR	UNSP
11.22	2	-4.02	2.8	0.01	2.42 GOOD	UNSP
11.2	2	-4	2.8	-0.02	4.08 UNSP	UNSP
9.72	2	-4.49	0	0	2.5 FAIR	UNSP
5.84	2	-0.25	-4.7	0.13	2.17 FAIR	UNSP
6.28	2	0.31	-1.1	-0.02	1.67 GOOD	UNSP
8.29	2	0.38	2.8	-0.05	1.67 GOOD	UNSP
8.28	2	0.24	0.7	0.03	2.08 GOOD	UNSP
7.96	2	0.1	0	0	2.17 GOOD	UNSP
7.73	2	0	-0.8	-0.01	1.83 GOOD	UNSP
7.99	2	0	-0.4	-0.01	2 GOOD	UNSP
4.85	2	0.18	0	-0.02	1.92 GOOD	UNSP
2.73	2	0.19	3.5	-0.02	1.84 GOOD	UNSP
2.89	2	0.16	-2.9	-0.02	2 GOOD	UNSP
3.06	2	0.2	0	-0.05	1.67 GOOD	UNSP
3.37	2	0.2	-1	-0.03	1.67 GOOD	UNSP
3.6	2	0.18	3	-0.03	1.5 GOOD	UNSP
4.03	2	0.18	6	0.07	2.25 UNSP	UNSP
6.44	2	0.16	-1	-0.15	2.58 GOOD	UNSP
4.86	2	0.16	5	-0.09	1.67 GOOD	UNSP
5.19	2	0.12	0	-0.16	1.42 GOOD	UNSP
6.18	2	0.11	4	-0.05	1.58 GOOD	UNSP
6.2	2	0.08	0	-0.09	1.5 GOOD	UNSP
4.62	2	0.43	2	0.03	1.5 GOOD	UNSP

4.43	2	0.45	2	-0.03	1.42 GOOD	UNSP
3.81	2	0.4	0.03	1.25 GOOD	UNSP	
4.37	2	0.34 GOOD	UNSP			
3.82	2	0.29	3	-0.01	1.17 GOOD	UNSP
6.68	2	0.24	-1	-0.02	1.75 GOOD	UNSP
4.77	2	0.24	3	-0.01	1.33 GOOD	UNSP
5.53	2	0.1	-1	-0.01	1.5 GOOD	UNSP
5.44	2	0.1	-2	-0.01	2 GOOD	UNSP
6.12	2	0.1	2	-0.09	1.75 GOOD	UNSP
6.75	2	0.1	1	-0.02	2 GOOD	UNSP
6.78	2	0.1	2	-0.02	1.67 GOOD	UNSP
6.81	2	0.04	0	-0.01	1.83 UNSP	UNSP
6.9	2	0.06	0	0	1.83 GOOD	UNSP
6.67	2	0.05	0	-0.01	1.58 GOOD	UNSP
6.8	2	0.05	3	0.02 FAIR	UNSP	
7.25	2	0	0	-0.01	1.75 GOOD	UNSP
5.79	2	0.05	4	0.02	1.5 GOOD	UNSP
6.68	2	0	0	0.01	1.92 GOOD	UNSP
9.98	2	-2.46	0	0.02	3.92 GOOD	UNSP
10.11	2	-2.81	0	0.02	3.83 GOOD	UNSP
9.78	2	-3.02	0	-0.06	4 GOOD	UNSP
9.63	2	-3.02	-2	-0.08	3.83 GOOD	UNSP
9.96	2	-3.02	-1	-0.04	4.5 GOOD	UNSP
10.18	2	-3	3	-0.01	4.83 GOOD	UNSP
10.07	2	-3	-2	0	3.83 GOOD	UNSP
9.65	2	-2.84	3	-0.01	1.33 GOOD	UNSP
10.03	2	-2.8	0	0	1.25 GOOD	UNSP
10.4	2	-3.23	0	0	1.5 GOOD	UNSP
10.59	2	-3.44	0	-0.01	1.25 GOOD	UNSP
9.65	2	-3.68	0	-0.01	1.17 GOOD	UNSP
10.53	2	-4.56	0	0.02	1.42 UNSP	UNSP
10.5	2	-5.61	0	0.24	2.25 UNSP	UNSP
9.4	2	-4.75	0	0.34	1.75 POOR	UNSP
5.63	2	-0.07	0	0.02	1.75 GOOD	UNSP
4.1	2	0.07	0	0.04	1.67 GOOD	UNSP
4.11	2	0.07	-2	0	2 UNSP	UNSP
4.3	2	0.07	1.8	-0.02	1.16 GOOD	UNSP
3.55	2	0.06	1.2	0.04	1.5 FAIR	UNSP
3.62	2	0.04	-1.2	-0.02	1.42 GOOD	UNSP
4.02	2	0.04	-0.8	-0.02	1.5 GOOD	UNSP
4.48	2	0.04	0.9	0.01	1.17 GOOD	UNSP
5.79	2	-0.03	0	0	1.83 GOOD	UNSP
5.41	2	-0.04	0	-0.03	2 GOOD	UNSP
4.66	2	-0.06	2.6	-0.01	1.17 GOOD	UNSP
4.26	2	-0.19	0	-0.03	1.83 GOOD	UNSP
4.95	2	-0.23	0	-0.02	1.17 GOOD	UNSP
5.29	2	-0.19	0	-0.03	1.33 GOOD	UNSP

4.78	2	-0.11	0	-0.04	1.25 GOOD	UNSP
4.77	2	-0.05	0	-0.03	1.58 GOOD	UNSP
4.47	2	0.12	2.6	-0.02	1.92 GOOD	UNSP
4.27	2	0.12	0	-0.02	1.42 GOOD	UNSP
4.13	2	0.11	2.9	-0.01	1.5 GOOD	UNSP
4.32	2	0.1	-2.8	-0.01	2.5 GOOD	UNSP
4.22	2	0.1	1.9	-0.02	1.67 GOOD	UNSP
3.22	2	0.1	5	-0.02	1.58 GOOD	UNSP
4.1	2	0	-1.2	-0.03	1.5 GOOD	UNSP
3.73	2	0	3.5	-0.01	1.5 GOOD	UNSP
3.27	2	0	-2.2	0	1.5 GOOD	UNSP
3.56	2	0	-0.2	0.02	1.33 UNSP	UNSP
5.78	2	0	-5.7	-0.02	2.08 UNSP	UNSP
4.06	2	0	2.9	0	1.5 GOOD	UNSP
6.78	2	0	0	-0.01	1.58 GOOD	UNSP
4.18	2	0	12	0.01	1.17 GOOD	UNSP
3.14	2	0	2.9	-0.02	1.17 GOOD	UNSP
5.55	2	0	-2.7	0.03	1.33 FAIR	UNSP
5.86	2	0	-0.6	0.01	1.25 GOOD	UNSP
8.73	0.09	0.12	1.45 UNSP	UNSP		
11.65	-1.83	0.06	5.5 UNSP	UNSP		
8.69	-0.8	0	-0.04	5 UNSP	UNSP	
9.07	-0.8	-1.8	0.03	4.33 UNSP	UNSP	
9.27	-0.8	4	0.03	4.92 UNSP	UNSP	
9.67	-0.8	-3.6	-0.05	4.5 UNSP	UNSP	
10.17	-0.8	4.1	0.02	4.83 UNSP	UNSP	
8.82	-0.58	-0.02	5.17 GOOD	UNSP		
8.63	-0.45	-0.02	2.5 FAIR	UNSP		
8.91	-0.69	-0.03	3.5 GOOD	UNSP		
8.98	-0.85	-0.06	6.5 UNSP	UNSP		
8.72	-0.62	0	-0.03	3.92 UNSP	UNSP	
8.82	-0.58	0	-0.01	4.42 UNSP	UNSP	
8.76	-0.7	0	-0.02	4.25 GOOD	UNSP	
7.25	-0.9	-9 FAIR	UNSP			
7.57	-0.15	-34	0.05	0.83 POOR	UNSP	
8.2	-0.2	-19	0.02	2 FAIR	UNSP	
8.68	-0.48	0	0.04	1.83 GOOD	UNSP	
8.56	-0.97	0	0.02	2.59 GOOD	UNSP	
6.66	2	0	1	0.03	1.84 GOOD	UNSP
4.01	2	0	-4.9	-0.04	2.17 GOOD	UNSP
4.71	2	0	-1.7	0.12	2.5 FAIR	UNSP
5.46	2	0	2.1	0	1.5 FAIR	UNSP
5.55	2	0	1.3	0.1	2.25 UNSP	UNSP
7.23	2	-0.08	-2.8	-0.01	2.25 UNSP	UNSP
7.32	1	-0.46	-1	-0.01	3 UNSP	UNSP
7.22	1	-0.4	1	-0.01	1.5 GOOD	UNSP
7.24	1	-0.4	-2	-0.01	2 GOOD	UNSP

7.14	1	-0.36	2	0	1.75 GOOD	UNSP
7.14	1	-0.26	1	0.01	3 GOOD	UNSP
7.12	1	-0.25	5	-0.02	1.67 GOOD	UNSP
7.11	1	-0.29	2	0.01	1.5 GOOD	UNSP
7.11	1	-0.3	-5	0	1.75 GOOD	UNSP
7.14	1	-0.29	-0.01	2.08	GOOD UNSP	
7.13	1	-0.31	-3	0	4 GOOD	UNSP
7.09	1	-0.33	0	0.02	3.17 UNSP	UNSP
7.16	1	-0.38	0	0	2.17 GOOD	UNSP
7.16	1	-0.38	-4	-0.02	1.92 GOOD	UNSP
7.14	1	-0.38	0	0.01	1.92 GOOD	UNSP
7.04	1	-0.22	3	0	1.83 GOOD	UNSP
6.92	1	-0.14	0	0	1.92 GOOD	UNSP
6.86	1	-0.12	-3	0	2.5 GOOD	UNSP
6.78	1	-0.07	0	-0.01	2 GOOD	UNSP
6.79	1	-0.05	0	0	1.92 GOOD	UNSP
6.78	1	-0.1	-2.9	-0.01	1.83 GOOD	UNSP
6.61	1	-0.1	-0.02	1.75	GOOD UNSP	
6.72	1	-0.05	0.01	2.83	GOOD UNSP	
4.95	1	0.21	0.01	1.58	GOOD UNSP	
4.94	1	0.19	0	0	1.33 GOOD	UNSP
6.63	1	0.07	0	-0.02	2.25 UNSP	UNSP
6.13	1	0	0	0.04	1.84 GOOD	UNSP
5.5	1	-0.28	0	-0.08	1.75 GOOD	UNSP
10.33	-1.1	-13	0	2	UNSP UNSP	
8.74	-0.39	0	0.09	3.82	GOOD UNSP	
8.01	-0.55	0	0.03	2.42	GOOD UNSP	
8.72	-0.42	1.8	0.01	1.33	GOOD UNSP	
8.59	-0.37	4.9	0.05	1.92	GOOD UNSP	
8.43	-0.33	3.2	-0.06	3	GOOD UNSP	
8.7	-0.55	3.8	-0.01	1.92	GOOD UNSP	
8.64	-0.57	0.01	1.5	GOOD UNSP		
8.59	-0.6	-11	0	2.67	UNSP UNSP	
8.65	-0.77	-2.7	-0.01	1.84	GOOD UNSP	
8.63	-0.58	4.5	-0.02	2.5	GOOD UNSP	
7.59	-0.75	-23	-0.03	2.84	UNSP UNSP	
8.81	-1.03	0	-0.01	2.67	UNSP UNSP	
9.22	-1.15	3.2	-0.01	2	UNSP UNSP	
9.58	-1.5	0	0	2.06	FAIR UNSP	
8.86	-1	0	0.14	2.75	UNSP UNSP	
4.6	1	0.12	-4.5	-0.01	2 UNSP	UNSP
5.89	1	0.12	0	0	1.58 GOOD	UNSP
6.2	1	0.15	1	-0.02	1.57 GOOD	UNSP
6.29	1	0.11	-5	0.03	1.58 GOOD	UNSP
6.53	1	0.11	3.4	0.01	1.84 GOOD	UNSP
6.56	1	0.06	0	0.01	1.75 GOOD	UNSP
6.25	1	0	0	-0.08	2 UNSP	UNSP

6.16	1	-0.12	-2.2	-0.02	2.5 GOOD	UNSP
8.4	1	-0.12	-2.4	-0.08	2.83 GOOD	UNSP
8.65	1	-0.12	-1	-0.01	3.42 GOOD	UNSP
8.76	1	-0.12	-2	-0.01	2.33 GOOD	UNSP
8.71	1	-0.12	-0.7	0.01	2.08 GOOD	UNSP
8.67	1	-0.02	-1	0	2.33 GOOD	UNSP
8.48	1	0	-3.1	-0.02	2.08 UNSP	UNSP
6.67	1	0.06	-2.3	0.01	2.67 GOOD	UNSP
5.55	1	0.1	-0.6	0.03	2.25 GOOD	UNSP
2.25	1	0.14	3.1	-0.05	1.33 GOOD	UNSP
2.42	1	0.06	0.2	0.02	1.33 GOOD	UNSP
2.49	1	0.05	-0.01	2.25 GOOD	UNSP	
2.54	1	-0.01	-0.01	3.42 GOOD	UNSP	
2.8	1	-0.08	-21	0.04	1.75 UNSP	UNSP
4.03	1	0.21	-0.01	1.83 GOOD	UNSP	
4.6	1	0.23	-0.02	1.75 GOOD	UNSP	
4.91	1	0.12	0.02	1.92 GOOD	UNSP	
5.4	1	-0.16	0.06	2 GOOD	UNSP	
7.47	1	-0.17	-1.7	-0.03	1.84 GOOD	UNSP
8.81	1	0.04	0	0	2.08 GOOD	UNSP
8.63	1	0.04	1.3	-0.01	2.25 GOOD	UNSP
8.67	1	0.04	1.6	-0.03	2 GOOD	UNSP
8.74	1	0.04	2.3	-0.02	1.92 GOOD	UNSP
8.63	1	0.04	-0.3	-0.03	2.08 GOOD	UNSP
7.45	1	0.04	0.4	0.03	2 GOOD	UNSP
6.79	1	0.01	1.4	0	1.75 GOOD	UNSP
6.05	1	-0.04	-0.02	2 GOOD	UNSP	
6.83	1	-0.1	-1.4	0	2 GOOD	UNSP
6.87	1	-0.1	2.8	0	1.92 GOOD	UNSP
6.9	1	-0.13	1.4	0.01	1.92 GOOD	UNSP
6.87	1	-0.18	-1	0	1.67 GOOD	UNSP
6.92	1	-0.18	2.4	0.01	2.33 GOOD	UNSP
6.88	1	-0.18	3.3	0.02	2 GOOD	UNSP
6.73	1	-0.18	-2	-0.02	2.08 GOOD	UNSP
6.76	1	-0.18	0	2 GOOD	UNSP	
5.48	1	0	1.2	0	2.25 GOOD	UNSP
5.6	1	0	1.8	0.02	2.08 GOOD	UNSP
6.86	1	-0.1	-3.8	-0.06	1.58 FAIR	UNSP
6.71	1	-0.2	0.03	2.33 GOOD	UNSP	
8.14	0.52	-0.37	3.25 GOOD	UNSP		
8.15	-0.15	0	1.58 FAIR	UNSP		
7.66	-0.09	0.04	2.75 GOOD	UNSP		
8.17	0.16	8.4	-0.03	1.5 FAIR	UNSP	
6.16	-0.23	-4.8	-0.06	1.08 GOOD	UNSP	
6.58	0.2	-4.6	-0.08	2.33 GOOD	UNSP	
6.93	0.67	-3.6	0.07	3.16 FAIR	UNSP	
6.98	0.85	0	1.17 GOOD	UNSP		

7.07	0.58	0.02	1.5	GOOD	UNSP	
7.61	0.47	0.02	1.67	GOOD	UNSP	
9.16	-1.1	0	1	GOOD	UNSP	
8.22	-1.65	-5.8	-0.04	1.57	UNSP	UNSP
4.26	1	0.03	0.01	1.67	GOOD	UNSP
4.13	1	0.22	0.01	1.82	GOOD	UNSP
3.35	1	0.29	0.01	1.17	FAIR	UNSP
4.85	1	-0.04	-0.04	1.92	UNSP	UNSP
3.77	1	0.14	0.03	1.58	GOOD	UNSP
3.72	1	0.11	2	-0.08	1.75	GOOD UNSP
4.12	1	0.06	-3.5	-0.03	2	GOOD UNSP
4.41	1	0.06	-3.2	0.02	2.08	GOOD UNSP
3.23	1	0.03	-4.2	-0.01	2	GOOD UNSP
3.09	1	0.08	-3.7	-0.02	1.83	GOOD UNSP
3.51	1	0.05	3.2	-0.01	1.25	UNSP UNSP
3.67	1	-0.03	-2.1	-0.02	1.58	GOOD UNSP
5.24	1	0.02	0	-0.16	1.92	GOOD UNSP
4.33	1	0.05	4.2	0.03	1.75	GOOD UNSP
5.43	1	0.05	0	-0.03	2.33	GOOD UNSP
4.83	1	0.1	5	0.01	1.75	GOOD UNSP
5.74	1	0.1	-1.7	0.02	2.43	GOOD UNSP
4.82	1	0.1	1.4	-0.07	2	GOOD UNSP
3.99	1	0.12	4.5	0	2.16	GOOD UNSP
4.41	****	-0.4	-3.4	0.03	1.58	GOOD UNSP
5.94	****	-0.28	-0.04	1.75	GOOD	UNSP
6.63	****	-0.22	4.3	0.03	2.08	GOOD UNSP
5.12	****	-0.23	-0.04	2.5	GOOD	UNSP
5.67	****	-0.19	-0.11	2.25	GOOD	UNSP
5.31	****	-0.22	2.6	0.07	2.16	GOOD UNSP
6.33	****	-0.25	-0.04	1.83	GOOD	UNSP
7.76	****	-0.46	0.02	2	GOOD	UNSP
7.79	****	-0.51	-0.03	2	GOOD	UNSP
7.58	****	-0.55	3	-0.04	2.58	GOOD UNSP
7.31	****	-0.6	0.11	3.33	GOOD	UNSP
6.84	****	-0.45	3.4	0.02	3.16	GOOD UNSP
6.56	****	-0.4	2.6	0.1	3.33	GOOD UNSP
5.48	****	-0.34	-0.07	2.25	GOOD	UNSP
6.4	****	-0.51	-0.05	3	GOOD	UNSP
5.54	****	-0.27	1.8	-0.05	3	GOOD UNSP
5.58	****	-0.23	-0.04	3.33	GOOD	UNSP
5.53	****	-0.27	-0.04	2.42	GOOD	UNSP
5.59	****	-0.27	-0.01	2.5	GOOD	UNSP
4.81	****	-0.3	-1.5	0.02	1.42	GOOD UNSP
5.47	****	-0.3	-1.3	-0.07	1.66	UNSP UNSP
5.29	****	-0.11	1.3	0.02	2.08	GOOD UNSP
5.94	****	-0.11	2.2	-0.11	2.5	GOOD UNSP
4.26	****	-0.11	-2.5	-0.1	2.25	GOOD UNSP

3.69	****	-0.47	0.04	2.25	GOOD	UNSP	
4.93	****	-0.45	-0.18	2	GOOD	UNSP	
6.39	****	-0.28	3.6	0	2.33	GOOD	UNSP
7.4	****	-0.28	-0.8	-0.01	2.25	GOOD	UNSP
7.27	****	-0.28	-0.03	2.5	GOOD	UNSP	
7.63	****	-0.23	-0.05	2.58	GOOD	UNSP	
6.04	****	0.08	4.6	0	2.5	GOOD	UNSP
5.37	****	-0.12	0.01	2.5	GOOD	UNSP	
4.63	****	-0.3	-0.23	2.42	GOOD	UNSP	
5.39	****	-0.13	2.5	0.05	2.5	GOOD	UNSP
6.38	****	-0.13	4.5	0	2.33	FAIR	UNSP
6.31	****	-0.17	0.03	2.67	GOOD	UNSP	
6.3	****	-0.18	1	0	2.25	GOOD	UNSP
6.19	****	-0.18	0	2.42	GOOD	UNSP	
4.51	****	-0.13	1.6	0.05	1.83	GOOD	UNSP
4.58	****	-0.13	-0.02	1.67	GOOD	UNSP	
6.09	****	1.07	-0.09	2.17	POOR	UNSP	
7.11	****	-0.16	0.09	2.5	FAIR	UNSP	
6.75	****	-0.15	-1	0.03	1.5	UNSP	UNSP
7.97	****	-0.23	-5.6	0.02	2	UNSP	UNSP
7.99	****	-0.21	0.02	1.67	GOOD	UNSP	
7.92	****	-0.2	-8.5	0.02	2	UNSP	UNSP
7.74	****	-0.07	-0.01	1.67	FAIR	UNSP	
7.92	****	-0.35	-5.9	0.02	1.17	FAIR	UNSP
7.18	****	-0.26	-0.01	4	UNSP	UNSP	
7.01	****	-0.2	-18	-0.04	2.5	FAIR	UNSP
7	****	-0.12	2.7	-0.02	1.08	GOOD	UNSP
6.99	****	-0.47	-0.01	1.25	FAIR	UNSP	
7.92	****	-1	-0.02	1.58	FAIR	UNSP	
6.82	****	-1.52	0.07	2.33	FAIR	UNSP	
4.87	****	0.1	0.02	2.33	UNSP	UNSP	
4.45	****	0.09	-0.04	2.5	GOOD	UNSP	
4.71	****	0.08	-0.7	0.06	3.08	FAIR	UNSP
4.07	****	0.04	0.08	2.17	GOOD	UNSP	
3.56	****	0	-1	0.15	2.08	GOOD	UNSP
5.6	****	0.04	0	0.01	3.33	FAIR	UNSP
5.41	****	0.04	0	0	2.33	GOOD	UNSP
5.26	****	0.02	-0.6	-0.02	2.25	GOOD	UNSP
5.3	****	0.02	0	0.01	2.25	GOOD	UNSP
4.91	****	0	0	-0.01	2.33	GOOD	UNSP
4.69	****	0	-0.7	-0.05	2.08	GOOD	UNSP
4.69	****	0.07	-2.8	0.03	2.83	GOOD	UNSP
4.65	****	0.17	1.4	0.08	2.75	GOOD	UNSP
4.74	****	0.17	0	0.02	2.57	GOOD	UNSP
5.46	****	0.1	-2.9	-0.05	2.42	GOOD	UNSP
5.74	****	0.05	0	0.03	2.58	GOOD	UNSP
6.81	****	0.01	-2.7	0	2.83	GOOD	UNSP

6.67 ****	0.03	0	0	2.67 GOOD	UNSP
6.67 ****	0.06	-2.3	0.05	4.33 GOOD	UNSP
6.09 ****	0.04	-1.5	0.02	2.16 UNSP	UNSP
6.96 ****	0	0.4	-0.09	3.33 UNSP	UNSP
7.18 ****	-0.02	0	0.02	3.58 GOOD	UNSP
7.71 ****	-0.14	0	-0.05	3.5 GOOD	UNSP
8.24 ****	-0.25	0	0.02	3.67 GOOD	UNSP
8.23 ****	-0.28	0	0.02	3 GOOD	UNSP
8.22 ****	-0.33	0	-0.05	3.5 GOOD	UNSP
8.14 ****	-0.33	0	-0.02	2.58 GOOD	UNSP
8.07 ****	-0.25	2.1	0.03	2.92 GOOD	UNSP
8.16 ****	-0.31	-2.8	-0.01	3 GOOD	UNSP
8.27 ****	-0.31	-3	0.02	3.42 GOOD	UNSP
8.19 ****	-0.23	-1	0.02	3.17 GOOD	UNSP
8.21 ****	-0.19	0.7	0	3.08 GOOD	UNSP
8.08 ****	-0.15	-2.7	-0.02	2.67 GOOD	UNSP
8.13 ****	-0.2	2.4	0.05	3.25 GOOD	UNSP
8.86 ****	-0.43	0	0.03	3.08 GOOD	UNSP
9.17 ****	-0.7	0.3	0	2.42 GOOD	UNSP
8.86 ****	-0.51	-2.4	0.01	2.67 GOOD	UNSP
8.83 ****	-0.53	0	0.06	2.5 GOOD	UNSP
8.39 ****	-0.44	0	-0.09	3.17 GOOD	UNSP
8.02 ****	-0.12	0.7	0.04	3.25 GOOD	UNSP
8.01 ****	-0.04	-3	-0.02	2.67 GOOD	UNSP
7.52 ****	0.15	-6.9	0.02	2.67 GOOD	UNSP
7.03 ****	0.65	1.1	0.01	3.17 GOOD	UNSP
7.11 ****	0.65	1.8	-0.01	3.08 GOOD	UNSP
7.22 ****	0.55	-1.8	-0.01	2.25 GOOD	UNSP
6.86 ****	0.8	0.4	0.03	3 GOOD	UNSP
6.86 ****	0.59	-1.3	0.03	3.17 FAIR	UNSP
6.88 ****	0.48	0	-0.03	3 GOOD	UNSP
6.81 ****	0.38	-5.3	0.06	3.83 GOOD	UNSP
6.92 ****	0.34	-0.4	-0.04	2.67 UNSP	UNSP
7.11 ****	0.29	3.9	0.08	2.25 FAIR	UNSP
7.28 ****	0.15	0	-0.05	4.25 GOOD	UNSP
9.39 ****	0.52	0	-0.18	2.75 UNSP	UNSP
6.27 ****	-0.34	0	0	1.33 UNSP	UNSP
4.96 ****	0.15	3	0.05	2 GOOD	UNSP
4.89 ****	0.1	4.6	0.02	1.75 GOOD	UNSP
4.93 ****	0.18	-0.7	0	2.08 UNSP	UNSP
4.08 ****	0.26	1	0.12	4.32 FAIR	UNSP
4.65 ****	0.36	-0.2	0.02	1.42 GOOD	UNSP
5.46 ****	0.19	0	-0.06	6.25 FAIR	UNSP
5.35 ****	0.27	0	0.01	1.42 UNSP	UNSP
5.98 ****	0.22	0	0.01	1.75 GOOD	UNSP
6.68 ****	0.1	0	0.01	1.58 UNSP	UNSP
6.34 ****	-0.04	-1.8	0.09	2 UNSP	UNSP

5.99 ****	0.06	5.5	-0.09	2 FAIR	UNSP
6.37 ****	-0.18	2.8	0.02	2.08 FAIR	UNSP
6.4 ****	-0.26	6.9	-0.03	1.67 FAIR	UNSP
7.14 ****	-0.38	-2.8	-0.08	2.25 UNSP	UNSP
6.16 ****	0.3	-3.3	0.01	1.75 GOOD	UNSP
7.45 ****	0.47	0	-0.06	3.08 GOOD	UNSP
7.96 ****	0.3	0.9	0.02	1.92 GOOD	UNSP
8 ****	0.18	4.1	0	2.08 GOOD	UNSP
8.29 ****	-0.06	0.6	0	1.67 GOOD	UNSP
8.33 ****	-0.08	3.4	0.01	3 GOOD	UNSP
8.4 ****	-0.28	-4.8	0.02	2.75 GOOD	UNSP
8.52 ****	-0.36	0	0	2.5 GOOD	UNSP
8.61 ****	-0.39	0	0	2.16 GOOD	UNSP
8.69 ****	-0.46	-2.8	-0.01	2.08 GOOD	UNSP
8.81 ****	-0.5	-1.5	-0.02	2.33 GOOD	UNSP
8.75 ****	-0.5	0	0.04	3.25 GOOD	UNSP
7.69 ****	-0.17	-1.5	-0.01	2.5 GOOD	UNSP
7.81 ****	-0.21	1.8	-0.03	2.33 GOOD	UNSP
8.14 ****	-0.33	0	0	2.42 GOOD	UNSP
8.16 ****	-0.32	-0.3	0	2.42 GOOD	UNSP
8.23 ****	-0.3	-4.1	0	2.75 GOOD	UNSP
8.19 ****	-0.27	-1	0.02	2.5 GOOD	UNSP
7.94 ****	-0.22	-1.8	0	2.5 GOOD	UNSP
6.19 ****	0.04	0 GOOD	UNSP		
6.21 ****	0.07	-4.5	0 UNSP	UNSP	
6.19 ****	0.09	-1.5 GOOD	UNSP		
6.22 ****	0.1	-3.9	0.02	2.42 GOOD	UNSP
7.19 ****	-0.09	0 GOOD	UNSP		
8.47 ****	-0.31	-1.9	-0.05	3 GOOD	UNSP
8.25 ****	-0.29	0	0.02	3.5 GOOD	UNSP
9 ****	-0.45	-2.3 GOOD	UNSP		
8.27 ****	-0.23	0	-0.01	2.5 GOOD	UNSP
7.68 ****	-0.01	0	0.14	1.92 GOOD	UNSP
8.43 ****	-0.34	0	0	2.42 GOOD	UNSP
7.25 ****	0.07	0	0.25	1.92 GOOD	UNSP
5.99 ****	-0.1	0	-0.06	1.92 UNSP	UNSP
7.55 ****	0.09	0	0	2 UNSP	UNSP
5.34 ****	-0.04	2.5	-0.06	1.88 UNSP	UNSP
6.72 ****	0	0 GOOD	UNSP		
8.21 ****	0.24	-2.9	0	2.58 GOOD	UNSP
8.77 ****	0.7	-3.7	0	2.92 GOOD	UNSP
8.64 ****	0.8	2	0.01	2.16 GOOD	UNSP
8.87 ****	0.59	0 GOOD	UNSP		
8.56 ****	0.08	0	0.05	2.33 GOOD	UNSP
7.82 ****	0.15	0	0.13	2.58 GOOD	UNSP
7.17 ****	0.11	-3.2	0	2.42 GOOD	UNSP
7.22 ****	0.2	1.5	-0.04	1.75 GOOD	UNSP

5.41	****	-0.16	0	0.05	1.75 GOOD	UNSP
3.1	****	0.09	4.5 UNSP	UNSP		
3.13	****	0.09	-1.3	0	1.5 GOOD	UNSP
3.38	****	0.09	0	0.01	1.58 GOOD	UNSP
3.33	****	0.08	0	0.01	3.25 FAIR	UNSP
3.15	****	1.29	0	-0.02	1.66 UNSP	UNSP
5.07	****	0.38	0	0	2 GOOD	UNSP
4.44	****	0.5	0	-0.08	2.92 GOOD	UNSP
5.43	****	0.01	0	-0.04	2.67 GOOD	UNSP
6.04	****	-0.11	0	0	3.33 GOOD	UNSP
4.9	****	0.05	0	-0.1	3 UNSP	UNSP
5.79	****	-0.07	0	-0.04	2.1 FAIR	UNSP
5.5	****	-0.13	-5.4	-0.05	1.83 FAIR	UNSP
4.71	****	0.15	0	-0.02	2.16 GOOD	UNSP
5	****	0.1	-8.7	-0.01	3.16 GOOD	UNSP
4.82	****	0	0	0.02	2 FAIR	UNSP
6.54	****	-0.74	0	-0.06	2.25 FAIR	UNSP
2.86	****	-0.12	0	0.04	1.66 UNSP	UNSP
3.12	****	-0.42	0	0.01	1.08 UNSP	UNSP
3.25	****	-0.85	0	-0.01	1.83 UNSP	UNSP
2.99	****	-0.59	0	0.02	1.42 UNSP	UNSP
3.11	****	-0.21	0	0.05	1.33 FAIR	UNSP
2.48	****	0.29	0	0	2 GOOD	UNSP
2.94	****	0.32	0	0.04	1.75 GOOD	UNSP
3.25	****	0.29	0	0.01	1.75 GOOD	UNSP
3.37	****	0.13	0	0	1.67 GOOD	UNSP
4.52	****	0.05	0	-0.01	1.75 GOOD	UNSP
5	****	0.22	0	0.01	1.58 UNSP	UNSP
5.02	****	0.14	-3.8	0	1.75 UNSP	UNSP
5.11	****	0.12	-1.9	0.02	2.33 GOOD	UNSP
6.4	****	0.03	0	-0.08	2.42 GOOD	UNSP
7.83	****	0.15	0	-0.02	3 GOOD	UNSP
7.81	****	0.27	0	-0.03	2.25 GOOD	UNSP
7.82	****	0.24	0	0	2.16 GOOD	UNSP
7.99	****	0.18	0.6	0	2.42 GOOD	UNSP
8.53	****	0.1	3	-0.08	2.66 GOOD	UNSP
8.75	****	0.54	-2.6	0	3.5 GOOD	UNSP
8.6	****	0.54	1.6	-0.01	4 FAIR	UNSP
9.02	****	0.53	2	0.06	2.67 FAIR	UNSP
9.02	****	0.4	-1.5	-0.01	3 GOOD	UNSP
9	****	0.31	0	-0.02	2.5 GOOD	UNSP
9.24	****	0.19	0	-0.01	2.75 GOOD	UNSP
9.37	****	0.08	0	0.02	2.75 GOOD	UNSP
9.38	****	0.04	3.4	0	2.67 GOOD	UNSP
9.41	****	0.02	0.5	0	2.42 GOOD	UNSP
9.64	****	-0.02	1.5	-0.01	2.17 GOOD	UNSP
9.62	****	-0.05	0	-0.01	2.5 GOOD	UNSP

9.6 *****	-0.08	0.8	-0.01	2.5 GOOD	UNSP
9.55 *****	-0.11	-0.3	-0.01	2.42 GOOD	UNSP
9.61 *****	-0.12	2.8	0.01	3 GOOD	UNSP
9.53 *****	-0.12	1	0	1.92 GOOD	UNSP
8.98 *****	-0.12	1.4	0	2.17 GOOD	UNSP
8.66 *****	-0.11	-1.2	0.07	2.16 GOOD	UNSP
8.07 *****	-0.09	-0.7	0.01	2.25 GOOD	UNSP
7.08 *****	0.02	0	-0.01	2.16 GOOD	UNSP
3.91 *****	0.44	0	0.06	1.58 GOOD	UNSP
3.78 *****	0.41	0	0.03	1.75 GOOD	UNSP
3.08 *****	0.15	0	0	2.42 UNSP	UNSP
3.37 *****	0.23	0	0	2 GOOD	UNSP
4.3 *****	0.31	0	-0.02	1.5 GOOD	UNSP
6.53 *****	-0.03	0.4	0	2 GOOD	UNSP
6.6 *****	0.04	-3	-0.03	2.16 GOOD	UNSP
6.85 *****	0.06	2.8	0.01	2.25 GOOD	UNSP
7.15 *****	-0.02	0	0	3.42 UNSP	UNSP
6.94 *****	-0.06	-0.4	0.01	2.25 GOOD	UNSP
6.66 *****	-0.02	0.4	-0.01	2.58 GOOD	UNSP
6.71 *****	0.04	-3.3	0.01	2.33 GOOD	UNSP
6.98 *****	0.24	0	0.01	2.08 GOOD	UNSP
6.97 *****	0.34	3	0	2.08 GOOD	UNSP
7.19 *****	0.38	1.4	0.02	2.42 UNSP	UNSP
6.75 *****	0.4	-0.4	0.06	2.42 GOOD	UNSP
6.77 *****	0.34	1.5	0.02	2.42 GOOD	UNSP
6.02 *****	0.11	-4.3	-0.01	2.66 GOOD	UNSP
6.32 *****	-0.09	4.7	0.06	2.25 GOOD	UNSP
5.54 *****	-0.12	4.5	0.06	2 FAIR	UNSP
7.45 *****	0	-0.86	2.25 POOR	UNSP	
8.22 *****	0.34	0	-0.01	1.75 GOOD	UNSP
8.21 *****	0.17	0	0.01	2.75 FAIR	UNSP
5.52 *****	0.64	-0.1	0	1.5 GOOD	UNSP
5.61 *****	0.54	-0.1	-0.01	3.42 GOOD	UNSP
5.75 *****	0.31	3.9	-0.01	2 GOOD	UNSP
6.02 *****	0.18	1.2	0	2.33 GOOD	UNSP
5.8 *****	0.08	-4.7	-0.01	4.5 GOOD	UNSP
6.13 *****	0	-0.31	-0.01	2.5 FAIR	UNSP
6.37 *****	0.1	-7.8 GOOD	UNSP		
5.18 *****	0.3	2.1	0.05	1.92 UNSP	UNSP
4.92 *****	0.22	0	-0.02	0.92 GOOD	UNSP
5.69 *****	-0.03	-0.1	0	1.17 GOOD	UNSP
5.39 *****	0	0	-0.06	1.92 POOR	UNSP
3.49 *****	0	4.5	-0.01	3.25 FAIR	UNSP
4.85 *****	-0.06	0	-0.01	1.92 GOOD	UNSP
5.05 *****	-0.14	-1.9	0.01	2.16 GOOD	UNSP
4.99 *****	-0.04	1.2	-0.01	2.25 GOOD	UNSP
5.59 *****	0.04	-1.6	-0.03	2.5 GOOD	UNSP

7.15	****	0.28	2.2	-0.04	2.33 GOOD	UNSP
7.68	****	0.36	-5.9	0	2.33 FAIR	UNSP
7.66	****	0.6	7.6	0.01	1.08 GOOD	UNSP
7.95	****	1.12	0	-0.03	2.58 UNSP	UNSP
8.51	****	0.04	-4.2	0.03	3 GOOD	UNSP
8.38	****	0	-1.8	0.01	2.66 UNSP	UNSP
8.21	****	-0.04	0	0.02	3.33 GOOD	UNSP
8.48	****	-0.03	2.1	0.01	2.83 UNSP	UNSP
8.62	****	-0.14	2.7	0.01	2.83 UNSP	UNSP
8.56	****	-0.65	-2.6	-0.03	2.33 GOOD	UNSP
8.69	****	-0.78	-0.6	0	2.33 GOOD	UNSP
8.58	****	-0.75	-2.3	0	2.5 GOOD	UNSP
8.36	****	-0.69	-1.4	0	2.33 GOOD	UNSP
8.82	****	-0.78	-1.6	0	2.25 GOOD	UNSP
8.48	****	-0.77	-1.4	0	2.92 GOOD	UNSP
7.8	****	-0.47	-0.4	0.02	2.25 GOOD	UNSP
7.74	****	-0.34	0	-0.01	2 GOOD	UNSP
8.13	****	-0.4	-2.4	0.01	3.25 GOOD	UNSP
7.32	****	-0.33	6	0	3.33 GOOD	UNSP
8.04	****	-0.43	1.1	-0.02	2.5 GOOD	UNSP
8.04	****	-0.43	0	-0.02	2.42 GOOD	UNSP
8.33	****	-0.46	0.3	0.02	4.33 GOOD	UNSP
8.33	****	-0.46	-1	0.02	4.08 GOOD	UNSP
7.67	****	-0.36	3.9	0	2.5 GOOD	UNSP
7.64	****	-0.29	2.7	0.05	3.15 GOOD	UNSP
7.75	****	-0.27	-1.5	-0.05	2.08 GOOD	UNSP
7.57	****	-0.25	3.9	0.04	3 GOOD	UNSP
7.74	-0.3	-0.7	0.02	3.15 GOOD	UNSP	
8.08	****	-0.32	-1	0.02	3.25 GOOD	UNSP
8.57	****	-0.31	-2.7	0.02	3.25 GOOD	UNSP
8.74	****	0.03	0.5	0	2.25 GOOD	UNSP
9.07	****	0.64	-0.4	-0.04	3.1 GOOD	UNSP
10.36	****	1.1	1.3	-0.06	3.67 GOOD	UNSP
10.73	****	1.4	2.8	0.04	4.5 GOOD	UNSP
10.7	****	0.43	-1.8	0	3.17 UNSP	UNSP
8.7	****	0.47	0	0.06	2.5 UNSP	UNSP
8.52	****	1.03	4.5	-0.04	4.58 UNSP	UNSP
9.12	****	0.8	2.9	0.05	1.67 GOOD	UNSP
7.99	****	-0.25	-5.1	-0.03	2.83 GOOD	UNSP
6.67	****	0.04	0	0.05	4 FAIR	UNSP
6.44	****	0.19	0	0	1.5 GOOD	UNSP
6.73	****	0.4	2.9	-0.03	1.67 GOOD	UNSP
6.88	****	0.16	0	0.04	1.83 GOOD	UNSP
7	****	0.06	-2.9	0.01	2.58 UNSP	UNSP
6.81	****	0.18	1.3	0.02	4 GOOD	UNSP
6.3	****	0.28	0	0	2 UNSP	UNSP
4.69	****	0.7	0.8	0.01	3.35 GOOD	UNSP

4.53	****	0.76	-4.8	0	3.1 GOOD	UNSP
4.77	****	0.8	0	0.02	2.7 GOOD	UNSP
4.79	****	0.92	-6	0.01	2.17 GOOD	UNSP
4.65	****	1.17	0	-0.06	2.08 GOOD	UNSP
7.47	****	1.27	0	0.08	2.5 GOOD	UNSP
7.98	****	0.75	-1.1	0.02	1.67 FAIR	UNSP
8.1	****	0.45	-2.8	0.16	1.5 FAIR	UNSP
8.12	****	0.32	5.2	0.01	1.58 POOR	UNSP
7.64	****	-0.18	0	0.03	1.67 GOOD	UNSP
6.02	****	0.19	-2.5	-0.05	3.1 GOOD	UNSP
6.19	****	0.05	-2.1	-0.01	1.7 GOOD	UNSP
6.68	****	0.04	2.8	0	2 GOOD	UNSP
7	****	0.04	4.2	0.02	2.55 GOOD	UNSP
7.09	****	0	4.2	-0.02	2.5 GOOD	UNSP
7.06	****	-0.14	0	0.02	3.5 UNSP	UNSP
7.09	****	-0.38	0	-0.02	1.42 GOOD	UNSP
6.9	****	-0.33	3.9	0	3.3 GOOD	UNSP
7.35	****	-0.5	8	-0.01	1.8 GOOD	UNSP
7.51	****	-0.68	1.8 GOOD	UNSP		
8.35	****	-0.8	-1.5	-0.02	1.5 GOOD	UNSP
8.21	****	-0.83	2.3	0.03	1.5 GOOD	UNSP
7.2	****	-0.8	-2.7	0.03	1 GOOD	UNSP
5.69	****	-0.65	-10	-0.01	1.25 FAIR	UNSP
6.52	****	-0.82	-19	-0.01	2.68 UNSP	UNSP
5.3	****	0.69	4.9	0	3.08 GOOD	UNSP
5.43	****	0.7	0	0.02	1.67 FAIR	UNSP
5.46	****	0.9	0.6	-0.01	1.58 GOOD	UNSP
7.02	****	0.31	4.6	-0.05	3.1 GOOD	UNSP
7.09	****	0.21	0	0	2.5 GOOD	UNSP
7.21	****	0.18	1.5	-0.02	2.66 GOOD	UNSP
7.31	****	0.15	1.5	-0.02	1.92 GOOD	UNSP
7.75	****	-0.07	3.8	0	3.5 GOOD	UNSP
7.77	****	-0.11	6.6	-0.05	3.66 GOOD	UNSP
7.96	****	-0.26	6.9	-0.01	3.25 GOOD	UNSP
8.03	****	-0.38	13	0.01	3.33 GOOD	UNSP
7.91	****	-0.3	-2.5	-0.02	2.83 GOOD	UNSP
7.87	****	-0.19	-0.7	-0.01	3.75 GOOD	UNSP
7.79	****	-0.13	3.1	0.02	3.75 FAIR	UNSP
7.72	****	-0.14	2.9	0	3 GOOD	UNSP
7.79	****	-0.18	0	0 GOOD	UNSP	
7.34	****	-0.08	4.7	-0.01	3.33 GOOD	UNSP
7.72	****	-0.05	0	0 UNSP	UNSP	
7.5	****	0.15	0.4	-0.03	2.67 GOOD	UNSP
7.33	****	0.22	0.4	-0.02	2.93 FAIR	UNSP
7.65	****	0	0	-0.01	5 FAIR	UNSP
8.15	****	-0.07	0	0.02	2.33 GOOD	UNSP
7.81	****	-0.05	0	-0.02	3.25 GOOD	UNSP

7.41	****	-0.02	0	0.01	1.83 GOOD	UNSP
6.89	****	0.19	0	0.02	2.25 GOOD	UNSP
6.38	****	0.4	0	-0.01	2.25 GOOD	UNSP
7.26	****	0.2	0	0	2 GOOD	UNSP
5.55	****	0.68	0	-0.01	2.25 GOOD	UNSP
6.24	****	0.4	0	-0.01	2.33 GOOD	UNSP
7.39	****	0.16	-3.6	-0.01	2.25 GOOD	UNSP
7.66	****	0.05	1	0.02	1.83 GOOD	UNSP
7.21	****	0.18	4.5	0.03	3.25 GOOD	UNSP
7.47	****	0.1	-1.4	-0.01	2.17 GOOD	UNSP
8.52	****	0.12	0	-0.04	2.25 UNSP	UNSP
10.02	****	0.12	3.4	-0.04	3.58 GOOD	UNSP
9.95	****	0.12	-3.4	0.08	2.67 GOOD	UNSP
8.98	****	0.38	-4.7	-0.05	2.5 GOOD	UNSP
8.82	****	0.46	3.6	-0.03	2.25 GOOD	UNSP
8.86	****	0.49	0.2	0	2.5 GOOD	UNSP
7.82	****	0.24	0	-0.01	2.17 GOOD	UNSP
7.11	****	0.35	0	0.02	2.33 GOOD	UNSP
7.61	****	0.85	0	-0.01	1.67 GOOD	UNSP
8.72	****	0.62	0	0	3.6 GOOD	UNSP
9.02	****	0.57	0	0.15	3.4 GOOD	UNSP
8.08	****	0.68	0	-0.05	2.9 UNSP	UNSP
9.22	****	0.81	0	-0.25	4.3 GOOD	UNSP
10.55	****	-0.03	-2.9	-0.03	3 GOOD	UNSP
11.08	****	-0.68	-4.1	0.02	3.7 GOOD	UNSP
11.41	****	-0.72	0	0.01	2 GOOD	UNSP
12.46	****	-0.67	-1.9	-0.07	1.83 GOOD	UNSP
16.82	****	-0.38	0	-0.07	2.25 UNSP	UNSP
17.33	****	-0.3	0	-0.07	2.42 UNSP	UNSP
18.52	****	-0.2	-3.8 GOOD	UNSP		
22.33	****	0	2.9	-0.24	1.92 GOOD	UNSP
24.9	****	0	0	-0.5	7.42 GOOD	UNSP
26.77	****	0	-1.1	-0.88	1.08 FAIR	UNSP
18.68	****	1.4	0	-0.36	1.1 GOOD	UNSP
17.8	****	0	0.2	0.05	1.5 UNSP	UNSP
9	****	0	-1.4 GOOD	UNSP		
8.03	****	-0.05	4.6 GOOD	UNSP		
8.17	****	-0.13	0	0	1.33 GOOD	UNSP
8.41	****	-0.06	0	-0.02	2.67 GOOD	UNSP
8.38	****	-0.04	3.3	-0.02	2.08 FAIR	UNSP
10.15	****	-0.17	0	0	1.66 GOOD	UNSP
9.99	****	-0.12	6	0	2.5 GOOD	UNSP
9.57	****	-0.27	2.5	0	2 GOOD	UNSP
9.97	****	-0.52	0	0.01	4.08 FAIR	UNSP
10.35	****	-0.9	4.9	0	1.58 UNSP	UNSP
9.53	****	-1.47	0	0.03	3 FAIR	UNSP
8.14	****	-1.85	-0.2	0.02	9.08 POOR	UNSP

8.64	****	-2.25	-7.8	-0.06	2.83 POOR	UNSP
6.5	****	0.48	0	-0.02	2.25 GOOD	UNSP
8.02	****	0.67	-1.1	0.03	3.25 POOR	UNSP
7.92	****	0.7	0.8	0.01	3.25 GOOD	UNSP
7.93	****	0.83	0	-0.01	2.33 GOOD	UNSP
8.07	****	0.66	1.8	-0.02	2.25 GOOD	UNSP
8.32	****	0.46	0	-0.04	2.33 GOOD	UNSP
8.8	****	0.12	0	0	2.25 GOOD	UNSP
8.52	****	0.01	2.7	0.02	2.33 GOOD	UNSP
8.34	****	0.31	2.6	0	2.25 GOOD	UNSP
8.45	****	0.3	2.8	-0.02	2.5 GOOD	UNSP
8.62	****	-0.02	-0.8	-0.03	3.5 FAIR	UNSP
8.45	****	-0.18	-2.1	-0.02	2.33 GOOD	UNSP
8.77	****	-0.3	1.4	-0.02	2.58 GOOD	UNSP
9.01	****	-0.48	0.3	-0.01	2.43 GOOD	UNSP
9.64	****	-0.69	0	0.05	2.5 GOOD	UNSP
9.41	****	-0.69	0	-0.02	2.2 GOOD	UNSP
8.82	****	-0.6	3.6	-0.02	2.42 UNSP	UNSP
9.42	****	-0.64	0	0.02	2.25 GOOD	UNSP
10.02	****	-0.9	0	-0.03	2.5 GOOD	UNSP
9.05	****	-0.78	0	0	2.25 GOOD	UNSP
9.58	****	-1.04	0	0.05	7 GOOD	UNSP
8.92	****	-0.85	1.2	0	2.67 GOOD	UNSP
9.04	****	-0.91	1.5	-0.01	2.92 GOOD	UNSP
9.14	****	-1	0	-0.01	2.33 GOOD	UNSP
8.91	****	-0.83	0.6	-0.02	2.25 GOOD	UNSP
9.05	****	-0.71	-0.3	0.03	2.5 GOOD	UNSP
8.69	****	-0.61	-0.6	0.02	2.33 GOOD	UNSP
8.98	****	-0.22	0	-0.04	2.42 GOOD	UNSP
9.77	****	0.2	0.8	-0.02	2.33 GOOD	UNSP
7.99	****	-0.39	0	0.05	2.17 GOOD	UNSP
8.17	****	-0.41	0	-0.02	2.67 GOOD	UNSP
8.57	****	-0.27	0	0	2.83 GOOD	UNSP
9.54	****	0.4	3.1	0.09	2.67 GOOD	UNSP
9.15	****	-0.05	1.4	-0.03	2.5 GOOD	UNSP
8.74	****	-0.24	0	-0.02	2.42 GOOD	UNSP
8.59	****	-0.22	1.7	0.02	2.25 GOOD	UNSP
8.03	****	-0.2	2	0.02	2.5 GOOD	UNSP
7.79	****	-0.23	0	-0.02	2.33 GOOD	UNSP
8.32	****	-0.21	0	0.11	2.45 GOOD	UNSP
7.22	****	0.12	0	0.03	2.5 FAIR	UNSP
7.01	****	0.44	2.6	0.01	2.67 GOOD	UNSP
7.48	****	0.39	-0.3	-0.01	2.25 GOOD	UNSP
8.22	****	0.35	0	0.01	3.3 GOOD	UNSP
10.85	****	0.73	0 GOOD	UNSP		
11.05	****	0.12	0	0.44	4.3 GOOD	UNSP
16.12	****	0.77	0	0 GOOD	UNSP	

8.42	****	0	0	0.03	1.08 GOOD	UNSP
6.83	****	0.21	0	0	1.5 GOOD	UNSP
7.58	****	0.21	0	-0.01	1.5 GOOD	UNSP
9.1	****	0.11	-3.7	0.02	1.3 GOOD	UNSP
7.92	****	0.54	4.4	0.02	1.83 GOOD	UNSP
7.36	****	0.4	0	-0.01	1.17 GOOD	UNSP
8.02	****	0.37	0	0	2.83 FAIR	UNSP
7.43	****	0.69	0	0	1 FAIR	UNSP
8.8	****	0.34	0	-0.01	1.33 FAIR	UNSP
9.35	****	-0.1	0	0	2.25 FAIR	UNSP
8.36	****	-0.25	0	0.02	3.67 FAIR	UNSP
9.27	****	-0.9	3.8	-0.02	1.67 FAIR	UNSP
7.46	****	-0.83	0	0.01	1.5 POOR	UNSP
7.06	****	-0.77	0.1	0.05	2.67 POOR	UNSP
6.08	****	0.95	6.8 POOR	UNSP		
7.16	****	0.8	5.1	-0.03	1.25 POOR	UNSP
8.02	****	0.48	4.4	-0.02	2 GOOD	UNSP
7.84	****	0.35	-2.7	0.01	2.25 GOOD	UNSP
7.88	****	0.22	0.3	-0.01	3 GOOD	UNSP
7.91	****	0.16	8.1	0.02	3.17 FAIR	UNSP
7.7	****	0.07	-3.4	0.02	2.67 UNSP	UNSP
7.89	****	0.01	2.9	-0.02	3.33 GOOD	UNSP
7.94	****	0	0.3	-0.01	3.25 GOOD	UNSP
7.69	****	0	-1	0	4.25 GOOD	UNSP
7.52	****	0.02	2.5	0	3.83 GOOD	UNSP
7.8	****	0	3	-0.04	2.25 GOOD	UNSP
8.19	****	-0.04	-1.8	0.05	3.58 GOOD	UNSP
7.67	****	-0.13	0	0.02	2 GOOD	UNSP
7.93	****	-0.21	-3.8	-0.01	3 GOOD	UNSP
8	****	-0.28	0.7	-0.01	2.25 GOOD	UNSP
7.95	****	-0.33	3.9	0.02 GOOD	UNSP	
8.02	****	-0.41	1.4	-0.02	2.5 GOOD	UNSP
8.65	****	-0.53	0	0	3.5 GOOD	UNSP
8.67	****	-0.51	0	0.04	4 GOOD	UNSP
7.94	****	-0.39	3.2	0.04	3.67 GOOD	UNSP
7.78	****	-0.32	-1.9 GOOD	UNSP		
7.7	****	-0.32	-3	0.01	2.5 GOOD	UNSP
7.95	****	-0.34	1.8	0	2.25 GOOD	UNSP
9.2	****	-0.4	-1	-0.01	2 GOOD	UNSP
9.85	****	-0.48	-1.8	0.02	2.5 GOOD	UNSP
10.03	****	-0.51	0.6 GOOD	UNSP		
9.34	****	-0.54	0 GOOD	UNSP		
9.8	****	0.25	-0.2	-0.01	2.25 GOOD	UNSP
10.04	****	0.43	0	0.04	2.33 GOOD	UNSP
10.16	****	0.45	1.7	0.06	2.5 GOOD	UNSP
8.16	****	0.12	0	-0.03	2.67 GOOD	UNSP
9.66	****	0	0.05	3 GOOD	UNSP	

7.76	****	-0.17	0.7	-0.02	2.67 GOOD	UNSP
7.46	****	-0.03	0.7	-0.04	2.43 GOOD	UNSP
6.68	****	0.08	0	-0.01	2.67 GOOD	UNSP
6.65	****	0.25	0	0.02	2.42 GOOD	UNSP
6.74	****	0.28	3.4	0	2.25 GOOD	UNSP
8.15	****	0.32	0	0.01	2.75 GOOD	UNSP
7.93	****	0.32	2.1	0.06	2.67 GOOD	UNSP
6.43	****	0.29	0.9	-0.02	2.92 GOOD	UNSP
8.12	****	0.23	-1.7	-0.07	2.58 GOOD	UNSP
9.34	****	0.06	1.5	-0.03	2.93 GOOD	UNSP
13.31	****	0	-1.2	-0.54	2.75 GOOD	UNSP
16.68	****	-1.32	0	-1.02	2.67 GOOD	UNSP
15.8	****	-0.5	0.2 GOOD	UNSP		
8.31	****	-2.91	0	0.02	2 FAIR	UNSP
6.6	****	-1.81	0 GOOD	UNSP		
5.83	****	-1.25	0	0.01	2.3 GOOD	UNSP
5.62	****	0	0	0	2.17 GOOD	UNSP
5.34	****	0.25	-0.1	0	2 GOOD	UNSP
5.3	****	0.22	0	0 GOOD	UNSP	
4.81	****	0.55	-0.3	0 GOOD	UNSP	
5.95	****	0.01	0.1	0 GOOD	UNSP	
5.64	****	-0.02	0.1	0.01	2.5 GOOD	UNSP
4.81	****	-0.25	-0.4	0.02	2.75 UNSP	UNSP
4.48	****	-0.32	0	-0.01	2.17 FAIR	UNSP
4.44	****	-0.34	-3.1	0.01	2.17 POOR	UNSP
4.16	****	1	0	-0.02	1.25 POOR	UNSP
4.54	****	0.96	0	-0.02	2.58 GOOD	UNSP
4.63	****	0.89	0.7	-0.02	2.17 GOOD	UNSP
4.73	****	0.79	0	-0.01	2.42 GOOD	UNSP
5.02	****	0.63	0	-0.01	2.08 GOOD	UNSP
5.4	****	0.5	0	-0.02	2.58 GOOD	UNSP
6.08	****	0.53	0	0	2.58 GOOD	UNSP
6.64	****	0.57	2	0	2.83 GOOD	UNSP
7.48	****	0.2	0	-0.02	2.42 GOOD	UNSP
7.22	****	0.04	0	-0.01	2.58 GOOD	UNSP
7.5	****	-0.1	1.1	-0.01	3 GOOD	UNSP
7.34	****	-0.14	-1.2	0.01	2.58 GOOD	UNSP
7.39	****	-0.1	0.4	0	2.33 GOOD	UNSP
7.18	****	0.02	4	0	2.66 GOOD	UNSP
7.24	****	0.01	-0.01	2.83 GOOD	UNSP	
7.39	****	0	1.9	0	2.92 GOOD	UNSP
7.5	****	-0.07	1.1	-0.01	2.43 GOOD	UNSP
7.5	****	-0.22	1.2	0	2.5 GOOD	UNSP
7.38	****	-0.22	0.8	0.02	2.75 GOOD	UNSP
7.37	****	-0.21	3.2	0	2.33 GOOD	UNSP
7.57	****	-0.17	-0.8	0	2.5 GOOD	UNSP
7.44	****	-0.12	3.5	-0.01	2.5 GOOD	UNSP

7.52	****	-0.12	-3.4	0.01	2.25 GOOD	UNSP
7.36	****	-0.12	0.06	2	GOOD UNSP	
7.47	****	-0.13	0.01	2.25	GOOD UNSP	
7.66	****	-0.27	-0.01	2.17	GOOD UNSP	
7.84	****	-0.36	-0.03	1.45	GOOD UNSP	
8.2	****	-0.64	0.03	2.5	GOOD UNSP	
8.06	****	-0.46	0.01	2.33	GOOD UNSP	
8.01	****	-0.75	0.02	3.25	FAIR UNSP	
8.23	****	-0.54	-0.02	3.33	GOOD UNSP	
9.04	****	-0.5	0	3.25	FAIR UNSP	
8.9	****	-0.25	-0.01	2.83	GOOD UNSP	
9.52	****	0.17	-0.04	3.5	GOOD UNSP	
9.58	****	-0.27	0.09	2.58	GOOD UNSP	
8.42	****	-0.16	-0.02	2.75	GOOD UNSP	
9.16	****	-0.15	-0.03	2.67	GOOD UNSP	
7.87	****	-0.26	-0.02	3.33	GOOD UNSP	
7.77	****	0.49	-0.02	2.83	GOOD UNSP	
7.79	****	-0.27	0	2.75	GOOD UNSP	
7.23	****	-0.15	0.02	2.82	GOOD UNSP	
7.26	****	0	-0.01	3.08	GOOD UNSP	
7.12	****	0.05	0.02	2.92	GOOD UNSP	
7.03	****	0.09	GOOD UNSP			
7.01	****	0.15	0	2.92	GOOD UNSP	
6.48	****	0.31	0.08	2.25	GOOD UNSP	
6.74	****	0.07	-0.03	2.5	GOOD UNSP	
7.84	****	0	-0.07	3	GOOD UNSP	
9.59	****	0.05	-0.18	3.42	GOOD UNSP	
15.54	****	0.78	-0.4	2.42	UNSP UNSP	
13.89	****	0.89	-0.2	2.17	GOOD UNSP	
15.24	****	-0.77	-0.4	2.08	GOOD UNSP	
16.46	****	-1.57	-0.81	3.17	FAIR UNSP	
9.85	****	-4.1	-0.05	2.58	FAIR UNSP	
12.92	****	-5.1	0.06	2	POOR UNSP	
8.79	****	-3.25	1.4	0	2.42 GOOD UNSP	
8.51	****	-3.1	-1.5	0	2.75 GOOD UNSP	
8.4	****	-3.06	1.6	-0.01	1.58 GOOD UNSP	
8.32	****	-3.04	-0.8	0	2.25 GOOD UNSP	
8.12	****	-3	-1.7	0	2.5 GOOD UNSP	
8.24	****	-3.14	0	2.58	GOOD UNSP	
8.67	****	-3.43	0	1.58	GOOD UNSP	
9.15	****	-3.83	0	1.67	FAIR UNSP	
8.05	****	-3.56	-1.6	0.02	1.58 FAIR UNSP	
6.71	****	-3.36	-1	0	4 POOR UNSP	
6.34	****	-0.27	-0.01	2.17	GOOD UNSP	
6.33	****	-0.13	0.01	2.58	FAIR UNSP	
6.04	****	0.25	-0.02	1.92	GOOD UNSP	
6.77	****	0.39	-0.01	2.3	GOOD UNSP	

7.62	****	0.27	-0.02	2.5	GOOD	UNSP	
7.85	****	0.25	0	2.8	GOOD	UNSP	
8.25	****	0.08	-0.01	2.7	GOOD	UNSP	
8.24	****	0.04	0.01	2.5	GOOD	UNSP	
8.25	****	0.09	0	3.3	GOOD	UNSP	
8.24	****	0.15	-0.01	3.25	GOOD	UNSP	
8.62	****	-0.07	1.1	0.01	2.92	GOOD	UNSP
8.65	****	-0.3	-0.9	-0.03	3.17	GOOD	UNSP
8.28	****	-0.69	0.01	2.83	FAIR	UNSP	
8.24	****	-0.54	1.2	0.01	3.08	FAIR	UNSP
7.83	****	-0.46	1.7	0.01	2	GOOD	UNSP
7.73	****	-0.46	-0.01	2.25	GOOD	UNSP	
7.79	****	-0.56	2.1	0.02	2.5	GOOD	UNSP
7.97	****	-0.64	3.4	0.02	2.67	GOOD	UNSP
8.12	****	-0.72	-1	-0.02	2.5	UNSP	UNSP
8.68	****	-0.8	3.6	-0.01	2.67	GOOD	UNSP
9.3	****	-0.9	-1.9	0	2.25	GOOD	UNSP
9.71	****	-0.97	-0.02	2.33	GOOD	UNSP	
8.79	****	-0.84	2.7	0.05	2.58	GOOD	UNSP
8.89	****	-0.6	-0.01	2.17	GOOD	UNSP	
9.05	****	-0.45	4.8	-0.01	2.25	GOOD	UNSP
10.39	****	-0.55	3.7	0.06	2.5	GOOD	UNSP
11.53	****	-0.57	1.9	-0.03	2.25	GOOD	UNSP
10.21	****	-0.53	1.6	-0.03	2.5	GOOD	UNSP
10.94	****	-0.49	0	0.03	3.83	GOOD	UNSP
11.11	****	-0.2	2.2	0	4	GOOD	UNSP
11.21	****	-0.12	2.3	0.12	4.5	GOOD	UNSP
11.63	****	0	1.1	0.07	3.25	GOOD	UNSP
11.13	****	0.09	-2.4	-0.03	3	GOOD	UNSP
11.35	****	0.18	2.6	0.02	2.5	GOOD	UNSP
11.2	****	0.19	5	0.06	2.75	GOOD	UNSP
9.7	****	0.23	0.1	4.58	UNSP	UNSP	
9.97	****	0.38	0.03	3.25	GOOD	UNSP	
7.21	****	-0.71	-4.2	0.01	2.75	GOOD	UNSP
7.57	****	-0.73	-0.02	2.25	GOOD	UNSP	
7.88	****	-0.78	0	2.25	GOOD	UNSP	
7.85	****	-0.76	0	2.25	GOOD	UNSP	
7.53	****	-0.3	-2.8	0.03	2.25	GOOD	UNSP
7.89	****	0.27	-0.02	2.25	GOOD	UNSP	
7.62	****	0.47	-0.22	2.75	GOOD	UNSP	
6.48	****	0.39	0	2.5	GOOD	UNSP	
6.95	****	0.19	-0.01	3.08	FAIR	UNSP	
8.5	****	-4.09	5.5	-0.02	2.5	GOOD	UNSP
10.33	****	-5.02	-1.2	0	3	FAIR	UNSP
8.73	****	-3.99	6.3	0.05	3.33	GOOD	UNSP
6.64	****	-3.66	0.01	2.12	GOOD	UNSP	
6.91	****	-3.84	-0.08	3	FAIR	UNSP	

6.59	****	-3.37	0.03	4.75	GOOD	UNSP	
7.3	****	-3.51	0	2	GOOD	UNSP	
7.31	****	-3.65	4.9	-0.03	2.67	GOOD	UNSP
9.23	****	-4.6	0	1.75	GOOD	UNSP	
7.64	****	-4.28	0.02	2.82	GOOD	UNSP	
9.21	****	-4.8	-7.8	-0.05	5.25	UNSP	UNSP
8.07	****	-0.3	0.9	-0.03	2.5	GOOD	UNSP
8.4	****	-0.4	4.7	-0.01	2.33	GOOD	UNSP
8.73	****	-0.72	2.3	-0.04	2.5	GOOD	UNSP
9.03	****	-1.02	0.01	2.5	GOOD	UNSP	
8.96	****	-1	-2.4	0	2.33	GOOD	UNSP
9.02	****	-0.92	-0.3	0	2.75	GOOD	UNSP
8.57	****	-0.82	-1.5	0	2.33	GOOD	UNSP
8.63	****	-0.78	0.04	2.58	GOOD	UNSP	
8.57	****	-0.76	0	2.75	GOOD	UNSP	
8.47	****	-0.5	0	2.75	GOOD	UNSP	
8.06	****	-0.47	0	3.75	GOOD	UNSP	
8.28	****	-0.71	0.01	3.75	GOOD	UNSP	
8	****	-0.71	0.09	3.12	GOOD	UNSP	
7.95	****	-0.42	0.01	3.12	GOOD	UNSP	
8.35	****	-0.69	0.02	2.83	GOOD	UNSP	
8.93	****	-0.7	-0.02	3.75	GOOD	UNSP	
9.01	****	-0.42	0.01	2.9	GOOD	UNSP	
9.61	****	-0.68	-0.03	2.33	GOOD	UNSP	
8.77	****	-0.31	0.1	3	FAIR	UNSP	
8.61	****	-0.3	-0.04	2.75	GOOD	UNSP	
8.6	****	-0.29	0	3	GOOD	UNSP	
8.87	****	-0.09	-0.03	2.5	GOOD	UNSP	
10.38	****	-0.63	0.05	2.65	GOOD	UNSP	
10.64	****	-0.75	0.03	2.5	GOOD	UNSP	
9.92	****	-0.55	-0.1	3	GOOD	UNSP	
11.45	****	-0.35	0.01	2.58	GOOD	UNSP	
11.22	****	0.1	2.8	-0.01	2.75	GOOD	UNSP
12.65	****	0.46	0	2.92	GOOD	UNSP	
13.12	****	1	0	4.08	GOOD	UNSP	
10.34	****	0.31	-0.13	3.83	GOOD	UNSP	
9.3	****	0.24	-0.1	3.42	GOOD	UNSP	
8.58	****	-0.47	-0.01	2.92	GOOD	UNSP	
8.6	****	-0.29	0.04	4	GOOD	UNSP	
8.74	****	0.09	-0.05	3.92	GOOD	UNSP	
8.34	****	0.54	0.01	3.08	GOOD	UNSP	
9.75	****	1	-0.02	2.45	GOOD	UNSP	
9.18	****	0.42	-0.06	3.15	GOOD	UNSP	
7.83	****	-0.08	-3.7	0.02	2.75	GOOD	UNSP
7.87	****	-0.24	0.02	2.25	GOOD	UNSP	
7.56	****	0.36	-0.03	2.42	GOOD	UNSP	
7.7	****	0.21	0.6	0.01	2.5	GOOD	UNSP

8.65	****	1.07	0.1	3.25	GOOD	UNSP	
7.63	****	0.46	0.09	2.83	GOOD	UNSP	
7.94	****	0.56	0.5	-0.08	2.33	GOOD	UNSP
9.66	****	-0.19	0.01	2.75	GOOD	UNSP	
9.88	****	-0.29	-0.11	3	GOOD	UNSP	
11.4	****	-1.37	-0.16	2.67	GOOD	UNSP	
13.26	****	-2	-0.48	3.08	GOOD	UNSP	
17.76	****	-2.05	-0.72	3.5	GOOD	UNSP	
20.92	****	0.04	-0.27	2.83	GOOD	UNSP	
5.65	****	-2.83	0.02	2	GOOD	UNSP	
5.56	****	0	-0.01	3.75	GOOD	UNSP	
5.63	****	-2.32	-0.02	2.33	GOOD	UNSP	
6.49	****	-3.19	-0.02	1	GOOD	UNSP	
8.04	****	-3.03	-0.04	1.83	GOOD	UNSP	
8.44	****	-3.26	0.02	1.25	GOOD	UNSP	
6.86	****	-3.01	0.05	3.67	GOOD	UNSP	
5.79	****	-2.66	0.08	2	GOOD	UNSP	
5.04	****	-2.11	0.02	2.83	GOOD	UNSP	
5.32	****	-2.11	-0.03	2.33	GOOD	UNSP	
6.63	****	-2.53	0.06	7.25	GOOD	UNSP	
5.59	****	-2.11	0	3.33	GOOD	UNSP	
5.64	****	-2.1	-0.07	7.83	GOOD	UNSP	
4.82	****	-1.87	0.02	3.5	GOOD	UNSP	
4.86	****	-1.85	0	3.5	GOOD	UNSP	
5.8	****	-2.08	-0.06	6	GOOD	UNSP	
5.16	****	0	0.02	1.25	GOOD	UNSP	
4.38	****	0	0	1.25	GOOD	UNSP	
5.9	****	-2.38	-0.03	1.25	GOOD	UNSP	
6.6	****	-2.97	-0.03	4	FAIR	UNSP	
4.91	****	0	0.02	3.08	GOOD	UNSP	
4.58	****	0	0.04	4.66	GOOD	UNSP	
4.36	****	0	0.06	5.58	GOOD	UNSP	
4.23	****	0.29	0.02	5.5	FAIR	UNSP	
4.29	****	-0.08	-0.02	5.83	GOOD	UNSP	
5.09	****	-0.1	-0.01	2.83	GOOD	UNSP	
6.04	****	-0.54	-0.07	2.67	GOOD	UNSP	
6.47	****	-0.41	-0.01	3.83	GOOD	UNSP	
6.49	****	-0.46	-0.01	4	GOOD	UNSP	
6.5	****	0.02	0.02	4.83	GOOD	UNSP	
6.52	****	0.21	-0.05	3.58	GOOD	UNSP	
8.23	****	0.36	-0.1	5.17	GOOD	UNSP	
6.97	****	-0.5	0.01	4	FAIR	UNSP	
6.94	****	-0.2	-0.03	3.5	GOOD	UNSP	
7.38	****	0.03	-0.03	4.33	GOOD	UNSP	
7	****	0.06	0.03	5.25	GOOD	UNSP	
6.88	****	0.08	-0.07	4.42	GOOD	UNSP	
7.21	****	-0.08	0	4.5	GOOD	UNSP	

6.94	****	0.1	0	4.25 GOOD	UNSP
7.12	****	-0.06	0.01	3.67 GOOD	UNSP
7.2	****	0	-0.01	3.5 GOOD	UNSP
7.36	****	-0.2	-0.05	4.17 GOOD	UNSP
6.74	****	0.06	-0.02	4.75 GOOD	UNSP
5.83	****	0.17	0.14	4.17 GOOD	UNSP
4.36	****	0.2	-0.03	3.5 GOOD	UNSP
5.12	****	0.08	-0.05	4.5 GOOD	UNSP
6.51	****	-0.19	0.05	5.05 FAIR	UNSP
8.68	****	-0.3	0.02	3 GOOD	UNSP
8.64	****	-0.19	-0.18	4.5 GOOD	UNSP
8.7	****	-0.28	0.02	5.25 GOOD	UNSP
8.22	****	-0.2	-0.02	3.5 GOOD	UNSP
9.92	****	-0.12	-0.06	4.25 GOOD	UNSP
9.14	****	0.19	0.01	2.5 GOOD	UNSP
9.22	****	0.4	0.03	3 GOOD	UNSP
10.14	****	0.14	-0.13	3 GOOD	UNSP
10.58	****	0	-0.05	3.5 GOOD	UNSP
8.77	****	0.08	-0.05	2.5 UNSP	UNSP
9.11	****	0.09	-0.02	3.5 GOOD	UNSP
7.5	****	0.09	0.15	2.3 GOOD	UNSP
6.9	****	0.18	0	2.4 GOOD	UNSP
5.3	****	-0.02	0.04	2.5 GOOD	UNSP
5.46	****	-0.01	-0.01	3.3 GOOD	UNSP
5.85	****	-0.05	0	3.2 GOOD	UNSP
5.65	****	-0.06	0	3.1 GOOD	UNSP
6.2	****	-0.35	0.21	2.4 GOOD	UNSP
5.85	****	-0.12	0.12	2.5 GOOD	UNSP
5.44	****	-0.31	0.01	3 GOOD	UNSP
4.01	****	-0.02	0.02	2.5 GOOD	UNSP
3.48	****	-0.1	-0.01	2 FAIR	UNSP
3.76	****	0.23	0	2.65 UNSP	UNSP
4.36	****	0.02	0	3 GOOD	UNSP
4.62	****	0.06	-0.01	2.65 GOOD	UNSP
4.81	****	0.06	0.01	3 GOOD	UNSP
6.98	****	1.76	-1.25	5 GOOD	UNSP
8.9	****	1.76	0.16	7 FAIR	UNSP
9.35	****	-4.62	0.1	6.33 GOOD	UNSP
6.42	****	-5.01	0.01	2.15 GOOD	UNSP
6.32	****	-4.85	0.01	4.5 FAIR	UNSP
6.48	****	-5.36	-0.02	3.1 FAIR	UNSP
7.32	****	-5.57	0	4 GOOD	UNSP
8.38	****	-6.28	0.03	6.5 GOOD	UNSP
7.37	****	-6.82	0.03	2 GOOD	UNSP
5.94	****	-6.31	0.01	3 FAIR	UNSP
6.49	****	-6.81	0	2.67 FAIR	UNSP
7.14	****	-3.96	0	GOOD UNSP	

5.26	****	-4.31	0	2 FAIR	UNSP
8.24	****	-4.22	0	3 FAIR	UNSP
7.44	****	-4.4	0	3 FAIR	UNSP
7.13	****	-4.53	0	5 POOR	UNSP
5.46	****	0.32	-0.02	4 GOOD	UNSP
6	****	0.56	-0.01	5 FAIR	UNSP
7.36	****	0.13	-0.06	4 UNSP	UNSP
7.16	****	-0.13	0.01	3.25 UNSP	UNSP
7.09	****	0.02	-0.02	6 GOOD	UNSP
7.34	****	-0.08	0.01	4 GOOD	UNSP
7.24	****	-0.13	0.05	4.5 UNSP	UNSP
7.55	****	0.09	0	3.75 UNSP	UNSP
7.8	****	-0.2	-0.09	4.5 GOOD	UNSP
7.92	****	-0.69	0.03	4 UNSP	UNSP
7.61	****	-0.71	-0.02	3.16 GOOD	UNSP
6.8	****	-0.55	0	4.67 GOOD	UNSP
6.44	****	-0.53	0.08	6.67 GOOD	UNSP
5.84	****	-0.39	-0.02	3 GOOD	UNSP

5.6	****	-0.23	0.01	6.5 GOOD	UNSP
6.01	****	-0.32	0	3.42 GOOD	UNSP
6.08	****	-0.57	-0.02	3.67 GOOD	UNSP
6.2	****	-0.46	0.06	6.08 GOOD	UNSP
5.87	****	-0.32	-0.08	5.5 GOOD	UNSP
24400	7.41 ****	-0.69	-0.02	3 GOOD	UNSP
8.9	****	-0.58	0	3 GOOD	UNSP
9.3	****	-0.34	-0.01	2.83 GOOD	UNSP
36900	8.95 ****	-0.2	0	3.33 GOOD	UNSP
8.82	****	0	0.02	3 GOOD	UNSP

39600	8.23	****	-0.18	-0.02	3.16	GOOD	UNSP
54100	9.18	****	0.35	-0.21	3.5	GOOD	UNSP
65500	9.99	****	0.53	-0.04	4	GOOD	UNSP
69700	10.1	****	0.74	-0.07	8	GOOD	UNSP
7.23	****	-0.89	-0.01	2.5	GOOD	UNSP	
7.9	****	-0.27	-0.04	3.16	GOOD	UNSP	
7.8	****	0.57	-0.01	4.08	GOOD	UNSP	
50800	8.78	****	0.44	0.03	3	GOOD	UNSP
7.06	****	-1.09	0.06	3.33	UNSP	UNSP	
5.84	****	-0.9	0.03	2.5	GOOD	UNSP	
5.74	****	-0.85	-0.01	3.16	GOOD	UNSP	
5.46	****	-0.76	0.05	5.5	GOOD	UNSP	
3.97	****	-0.42	0.08	2.75	GOOD	UNSP	
3.4	****	-0.26	0.03	2.58	GOOD	UNSP	
3.92	****	-0.37	0.12	2.42	UNSP	UNSP	
3.42	****	-0.25	0.07	3.16	GOOD	UNSP	
3.19	****	-0.32	-0.01	2.83	GOOD	UNSP	
3.44	****	-0.36	-0.03	2.83	GOOD	UNSP	
3.94	****	-0.44	0.06	2.58	GOOD	UNSP	
4.38	****	-0.45	-0.01	3.67	GOOD	UNSP	
4.52	****	-0.04	-0.01	2.58	GOOD	UNSP	
5.64	****	0.24	-0.03	2.42	GOOD	UNSP	
6.36	****	0.45	-0.07	3.16	GOOD	UNSP	
7.17	****	0.97	-0.1	2.92	GOOD	UNSP	
9.03	****	1.14	-0.31	4.25	GOOD	UNSP	
5.84	****	-2.65	0.01	4.75	GOOD	UNSP	
6.26	****	-2.82	-0.09	6	GOOD	UNSP	
7.55	****	-3.23	0	3.25	GOOD	UNSP	
7.94	****	-3.42	-0.22	7	GOOD	UNSP	
10.02	****	-3.87	0	6.25	GOOD	UNSP	
8.71	****	-3.77	-0.02	5	FAIR	UNSP	
6.71	****	-3.13	0	8.33	FAIR	UNSP	
7.42	****	-3.86	0	6	FAIR	UNSP	
10.6	****	-4.69	0.05	2.75	GOOD	UNSP	
6.2	****	-0.06	-0.05	4.25	FAIR	UNSP	
6.83	****	0.03	-0.04	4.33	GOOD	UNSP	
6.88	****	-0.13	0	4.83	GOOD	UNSP	
6.82	****	-0.16	0.03	2.33	GOOD	UNSP	
5.8	****	-0.08	0	3.83	UNSP	UNSP	
5.8	****	0	0	3.5	UNSP	UNSP	

6.76	****	0.33	-0.05	3.58	GOOD	UNSP
6.89	****	0.41	-0.02	3.67	GOOD	UNSP
5.62	****	0.22	0.03	3.58	GOOD	UNSP
6.11	****	0.1	0.02	4	FAIR	UNSP
5.9	****	0.05	0	3.83	GOOD	UNSP
5.71	****	-0.47	0.02	3.33	UNSP	UNSP
5.8	****	-0.64	-0.02	3.83	UNSP	UNSP
5.67	****	-0.57	-0.02	3.75	UNSP	UNSP
6.02	****	0.02	0.01	4	GOOD	UNSP
5.72	****	-0.08	-0.01	4	GOOD	UNSP
6.43	****	0.04	-0.06	4	UNSP	UNSP
6.7	****	0.12	-0.01	4.92	GOOD	UNSP
6.79	****	-0.04	-0.02	3.75	UNSP	UNSP
6.82	****	0	0.02	3.83	GOOD	UNSP
7.26	****	0.16	-0.06	3.67	UNSP	UNSP
6.98	****	-0.14	-0.01	3.16	GOOD	UNSP
6.38	****	-0.05	0.04	3.58	GOOD	UNSP
6.38	****	0.07	0.05	4.75	GOOD	UNSP
7.57	****	0.73	-0.02	4	UNSP	UNSP
9.19	****	0.12	-0.04	4.16	GOOD	UNSP
10.32	****	0.04	-0.05	4	GOOD	UNSP
11.08	****	0.35	-0.04	4.08	GOOD	UNSP
12.14	****	0.75	0.04	4	GOOD	UNSP
13.5	****	0.06	0.12	3.92	GOOD	UNSP
13.38	****	0.12	0.09	4.42	GOOD	UNSP
12.66	****	-0.15	0.11	2.83	GOOD	UNSP
9.98	****	-0.11	0.08	3.58	GOOD	UNSP
9.64	****	0	0.06	3.75	GOOD	UNSP
10.1	****	0.47	-0.11	3.5	GOOD	UNSP
9.77	****	0	-0.02	4.25	GOOD	UNSP
7.28	****	-0.38	-0.01	3.33	GOOD	UNSP
8.44	****	0.16	-0.15	3.75	GOOD	UNSP
4.22	****	0	0.36	3.25	GOOD	UNSP
3.2	****	0	0	-0.05	3.58	FAIR UNSP
3.94	****	0.02	-0.03	4.08	GOOD	UNSP

2.84 ****	0.27	0.04	3.25 FAIR	UNSP
3.03 ****	0.02	-0.02	3.83 GOOD	UNSP
3.76 ****	-0.09	-0.02	4.42 UNSP	UNSP
4.42 ****	0.04	-0.04	3.16 EXCL	UNSP
5.18 ****	-0.09	-0.07	3.83 UNSP	UNSP
8.14 ****	0	-0.05	4.75 GOOD	UNSP
11.22 ****	-0.27	-0.12	4.5 GOOD	UNSP
13.18 ****	0.36	-0.81	3.75 UNSP	UNSP
12.52 ****	0	0.11	3.67 GOOD	UNSP
8.2 ****	0	0.23	3 GOOD	UNSP
5.51 ****	0	0.02	3.67 UNSP	UNSP
5.3 ****	0	-0.02	3.25 FAIR	UNSP
5.3 ****	0	0	3.83 GOOD	UNSP
5.4 ****	0	-0.01	3.92 FAIR	UNSP
8.11 ****	0	-0.01	5.25 GOOD	UNSP

8.62 ****	0	-0.02	3.83 GOOD	UNSP
6.14 ****	0	0.04	3 GOOD	UNSP
7.86 ****	0	-0.31	5.33 GOOD	UNSP
9.16 ****	0	0	4.25 EXCL	UNSP
8.31 ****	0	-0.2	26.3 GOOD	UNSP
5.98 ****	-0.2	-0.07	5.83 FAIR	UNSP
5.8 ****	0.53	0.01	4.25 GOOD	UNSP
5.74 ****	0.22	0	4.58 EXCL	UNSP
5.84 ****	0.32	-0.03	4.43 EXCL	UNSP
6.57 ****	0.45	-0.02	4.08 EXCL	UNSP
7.13 ****	0.34	-0.02	5.08 GOOD	UNSP
6.88 ****	0.43	0	4.5 GOOD	UNSP
7.04 ****	0.45	0	4 GOOD	UNSP

7.09 ****	0.07	0	4.67 GOOD	UNSP	
6.98 ****	-0.08	0	4 EXCL	UNSP	
7.54 ****	-0.08	0	3.33 EXCL	UNSP	
7.58 ****	-0.05	0.03	4.08 EXCL	UNSP	
7.32 ****	-0.18	0.04	4.75 GOOD	UNSP	
7.29 ****	0.1	4.2	0	3.25 GOOD	UNSP
7.22 ****	0.05	4.7	0.01	4.33 GOOD	UNSP
7.08 ****	0	1.1	0	5.67 EXCL	UNSP
7.18 ****	0	1.5	0.03	4.08 EXCL	UNSP
7.36 ****	0	0.7	0	3.67 UNSP	UNSP
7.84 ****	0.21	0	-0.04	3.67 EXCL	UNSP
7.72 ****	0.23	0	-0.01	3 GOOD	UNSP
7.68 ****	0.14	0	0	3 GOOD	UNSP
6.52 ****	-0.51	0	-0.01	3.92 EXCL	UNSP
6.75 ****	-0.24	0	-0.02	3.58 EXCL	UNSP
6.91 ****	-0.44	0	-0.02	3.16 EXCL	UNSP
7.46 ****	-0.19	0	0	3.16 EXCL	UNSP
7.74 ****	-0.3	0	-0.02	3.08 EXCL	UNSP
8.74 ****	-0.23	0	-0.02	2.5 EXCL	UNSP
10.92 ****	0.13	0	0	3 EXCL	UNSP
11.59 ****	0.22	0	-0.02	3.33 GOOD	UNSP
11.94 ****	0.68	0	0.11	3.67 EXCL	UNSP
12.38 ****	0.88	0	-0.06	4.83 EXCL	UNSP
12.26 ****	0.65	0	0.04	4.08 EXCL	UNSP
10.79 ****	0.51	0	-0.1	3.92 EXCL	UNSP
9.94 ****	0.41	0	0.19	3.25 EXCL	UNSP
8.8 ****	0.75	0	0.01	3.08 UNSP	UNSP
11.71 ****	1.37	0	-0.08	4.92 EXCL	UNSP
6.33 ****	-0.17	0	0.05	3.5 GOOD	UNSP
5.82 ****	-0.46	0	-0.01	3.5 EXCL	UNSP
6.11 ****	-0.58	0	-0.04	2.92 GOOD	UNSP
6.46 ****	0	0	-0.02	4.25 GOOD	UNSP
6.26 ****	0.04	0	0.03	3.67 GOOD	UNSP
6.08 ****	0.18	0	-0.03	2.92 GOOD	UNSP
6.56 ****	0.15	0	0.07	3.33 GOOD	UNSP
6.24 ****	-0.33	0	0.01	3.33 GOOD	UNSP
6.97 ****	-0.39	0	-0.06	2.75 GOOD	UNSP

7.71 ****	-0.34	0	-0.04	3.1 GOOD	UNSP
8.68 ****	0	0	-0.06	3.16 UNSP	UNSP
11.2 ****	-0.72	0	-0.19	3.67 GOOD	UNSP
21.79 ****	0.35	0	0.04	4.33 GOOD	UNSP
21.67 ****	-0.78	0	-0.18	4.33 GOOD	UNSP
22.1 ****	-1.78	0	0.25	2.33 GOOD	UNSP
17.16 ****	-2.28	0	0.25	2.67 GOOD	UNSP
17.5 ****	0	-0.1	4.08 UNSP	UNSP	
5.15 ****	0	-0.02	3.5 GOOD	UNSP	
3.46 ****	0	0.05	3.25 FAIR	UNSP	
4.66 ****	0	0.01	3 FAIR	UNSP	
4.67 ****	0	-0.02	2.75 GOOD	UNSP	
5.84 ****	0	0	5.08 GOOD	UNSP	
4 ****	0	0	2.33 UNSP	UNSP	
5.46 ****	0	0	-0.01	2.5 GOOD	UNSP
7.34 ****	0	0	0.03	2.67 GOOD	UNSP
7.24 ****	-0.07	0	-0.01	2.58 GOOD	UNSP
6.88 ****	-0.09	0	0.01	2.25 GOOD	UNSP
6.71 ****	-0.1	0	-0.02	3.08 GOOD	UNSP
6.42 ****	-0.02	0	-0.01	2.5 GOOD	UNSP
6.4 ****	0.11	0	-0.01	2.58 GOOD	UNSP
6.49 ****	0.12	0	0	2.67 GOOD	UNSP
6.52 ****	0.31	0	0	2.83 UNSP	UNSP
6.69 ****	0.17	0	0	2.75 UNSP	UNSP
6.94 ****	0.25	0	0.01	2.67 UNSP	UNSP
6.62 ****	0.19	0	0.04	2.42 UNSP	UNSP
6.2 ****	-0.02	0	-0.01	2.83 UNSP	UNSP
6.34 ****	0.06	0	-0.01	2.42 UNSP	UNSP
6.44 ****	0.04	0	0	2.33 UNSP	UNSP
6.16 ****	0.02	0	0	2.58 UNSP	UNSP
6.28 ****	0	0	-0.01	2.58 UNSP	UNSP
6.26 ****	0.06	0	-0.02	2.5 UNSP	UNSP
6.34 ****	-0.02	0	0	2.42 UNSP	UNSP
6.6 ****	0.06	0	-0.01	2.5 UNSP	UNSP
6.94 ****	0.1	0	0	2.58 UNSP	UNSP
5.9 ****	-0.07	0	-0.01	2.67 UNSP	UNSP
6.37 ****	0.08	0	0	3.16 GOOD	UNSP
6.85 ****	0.05	0	-0.04	3.5 UNSP	UNSP

9.12 *****	-0.08	0	-0.04	2.83 UNSP	UNSP
9.33 *****	-0.04	-0.3	0	3.08 UNSP	UNSP
8.44 *****	0.14	0	0	3.5 UNSP	UNSP
9.18 *****	0	0	0.05	3 GOOD	UNSP
8.77 *****	0.14	0	-0.02	3.75 UNSP	UNSP
9.78 *****	0.04	0	0	3.67 FAIR	UNSP
12.33 *****	0	0	0.02	4.16 UNSP	UNSP
11.37 *****	0.47	0	-0.1	4.42 UNSP	UNSP
10.74 *****	0.29	0	0.12	3 UNSP	UNSP
10.49 *****	-0.41	0	-0.02	5.67 FAIR	UNSP
10.53 *****	-0.07	0	0.06	3.83 UNSP	UNSP
9.91 *****	-0.05	0	0.1	3.67 UNSP	UNSP

9.1 *****	-0.11	-0.2	0.04	2.83 UNSP	UNSP
7.28 *****	0.43	0	0	3 UNSP	UNSP
7.07 *****	1.04	0	0	4 UNSP	UNSP
5.78 *****	-0.2	0	-0.04	3.16 UNSP	UNSP
5.86 *****	-0.08	0	0	3 UNSP	UNSP
6.28 *****	-0.18	0	-0.04	3.16 UNSP	UNSP
7.85 *****	0.04	0	-0.02	3.16 UNSP	UNSP
6.22 *****	-0.12	0	-0.01	3.33 UNSP	UNSP
6.12 *****	-0.15	0	0	3.08 UNSP	UNSP
6.21 *****	-0.08	0	-0.02	3.42 UNSP	UNSP
5.77 *****	-0.07	0	-0.04	4 UNSP	UNSP
8.84 *****	-0.2	0.3	-0.5	4.5 UNSP	UNSP
5.37 *****	0	0.02	1.92 UNSP	UNSP	
4.82 *****	0	0.01	6.16 GOOD	UNSP	
6.07 *****	0	0.01	3 GOOD	UNSP	
6.36 *****	0	0.06	5.67 GOOD	UNSP	

6.64 ****	0	-0.01	3.5 GOOD	UNSP	
4.96 ****	0	0.02	2.5 GOOD	UNSP	
4.82 ****	0	-0.14	9.16 GOOD	UNSP	
6.38 ****	0	-0.04	3.83 GOOD	UNSP	
7.12 ****	0	0	5.25 GOOD	UNSP	
5.99 ****	0	0	4.16 GOOD	UNSP	
6.02 ****	0	0.01	6.83 FAIR	UNSP	
5.6 ****	0	0.11	6.33 FAIR	UNSP	
5.35 ****	0	0.17	4.25 GOOD	UNSP	
4.36 ****	0.02	0	0.01	2.83 GOOD	UNSP
4.56 ****	0	0	-0.01	2.58 GOOD	UNSP
4.82 ****	-0.04	0	0	2.67 GOOD	UNSP
4.8 ****	-0.02	0	0	5.75 GOOD	UNSP
4.9 ****	-0.09	0	-0.01	2.16 GOOD	UNSP
5.16 ****	-0.06	0	0	2.42 GOOD	UNSP
5.3 ****	0.05	0	-0.01	2.33 GOOD	UNSP
5.43 ****	-0.05	0	0	2.58 GOOD	UNSP
5.83 ****	-0.14	0	0	2.25 GOOD	UNSP
7.64 ****	0.68	0	-0.1	2.08 GOOD	UNSP
6.8 ****	-0.09	0	-0.03	2.16 GOOD	UNSP
5.75 ****	-0.11	0	0	2.58 GOOD	UNSP
5.62 ****	-0.1	0	-0.01	2.33 GOOD	UNSP
5.68 ****	0	0	0	2.25 GOOD	UNSP
6.1 ****	0.41	0	-0.01	2.25 GOOD	UNSP
8.8 ****	0.4	0.2	-0.13	2.75 GOOD	UNSP
7.33 ****	0.06	0	-0.02	2.33 GOOD	UNSP
7 ****	0.18	0	0.05	2.33 GOOD	UNSP
6.34 ****	0.11	0	0	2.25 GOOD	UNSP
7.53 ****	0.25	0	-0.04	2.33 GOOD	UNSP
6.99 ****	-0.13	0	-0.05	3 GOOD	UNSP
6.78 ****	0.1	0	0.03	2.33 GOOD	UNSP
7.21 ****	0.33	0	-0.06	3.75 GOOD	UNSP
6.44 ****	0.2	0	0.01	2.67 GOOD	UNSP
6.19 ****	0.07	0	0.02	2.58 GOOD	UNSP

6.42	****	0.46	0	0.03	2.33 GOOD	UNSP
5.89	****	0.27	0	0.01	2.25 GOOD	UNSP
6.43	****	0.31	0	0	2.92 GOOD	UNSP
3.97	13	0.19	-0.01	2.67 GOOD	UNSP	
8.11	****	-0.06	0	0.04	2.67 GOOD	UNSP
8.86	****	-0.49	0	-0.03	2.33 GOOD	UNSP
9.62	****	-0.66	0	-0.04	2.5 GOOD	UNSP
8.64	****	0	0	-0.03	2.5 GOOD	UNSP
9.02	****	-0.03	0	-0.03	2.5 GOOD	UNSP
8.34	****	-0.26	0	0.04	2.25 GOOD	UNSP
7.74	****	-0.12	0	0.08	2.25 GOOD	UNSP
7.18	****	-0.03	0	0.03	2.83 GOOD	UNSP
7.6	****	-0.15	0	-0.06	2.25 GOOD	UNSP
8.2	****	-0.06	0	0.11	3.25 GOOD	UNSP
6.68	****	-0.39	0	-0.03	3.5 GOOD	UNSP
6.52	****	-0.2	0	0.01	2.5 GOOD	UNSP
6.38	****	-0.12	0	0.01	2.5 GOOD	UNSP
6.07	****	-0.05	0	0	2.16 UNSP	UNSP
5.76	****	0.72	0	-0.03	2.08 GOOD	UNSP
7.47	****	0.97	0	-0.19	2.83 UNSP	UNSP
6.89	****	0	-0.02	2.67 GOOD	UNSP	
5.71	****	0	-0.04	4.75 GOOD	UNSP	
4.16	****	0	0	4.83 GOOD	UNSP	
4.54	****	0	0	4.25 GOOD	UNSP	
4.54	****	0	0	5.16 GOOD	UNSP	
4.13	****	0	0	3.16 GOOD	UNSP	
3.32	****	0	0	4.16 GOOD	UNSP	
4.5	****	0	0	4.25 GOOD	UNSP	
4.42	****	0	-0.05	4.75 GOOD	UNSP	
5.16	****	0	0	6.25 FAIR	UNSP	
4.91	****	0	0.02	3.58 FAIR	UNSP	
4.19	****	0	-0.06	7 FAIR	UNSP	
3.71	****	0	0	0.02	1.92 GOOD	UNSP
4.04	****	-0.17	0	0	2.5 GOOD	UNSP
4.72	****	0	0	-0.01	1.75 GOOD	UNSP
5.26	****	0.18	0	-0.07	2.25 GOOD	UNSP
7	****	1.04	0	-0.15	3.33 GOOD	UNSP
3.2	****	0.09	0.1	0.05	1.58 GOOD	UNSP
2.89	****	-0.17	0	-0.02	1.92 GOOD	UNSP
6.18	****	-0.13	0	-0.01	2.33 GOOD	UNSP
6.3	****	0.07	0	0.02	3.33 GOOD	UNSP

6.33 ****	-0.07	0	0	2.33 GOOD	UNSP
7.7 ****	-0.12	0	-0.04	3 GOOD	UNSP
5.95 ****	0.04	0	0.02	2.67 GOOD	UNSP
6.11 ****	0.05	0	0.02	2.16 GOOD	UNSP
5.65 ****	-0.21	0	0.02	2.33 GOOD	UNSP
7.87 ****	-0.02	0	-0.05	2.42 GOOD	UNSP
7.78 ****	0.04	0	0.04	2.67 GOOD	UNSP
9.1 ****	0	0	0.02	2.16 GOOD	UNSP
7.59 ****	0.08	0	0.02	2.08 GOOD	UNSP

6.59 ****	-0.19	0	-0.02	2.08 GOOD	UNSP
5.82 ****	-0.44	0	-0.04	2.5 GOOD	UNSP
5.99 ****	0.51	0	0.02	2.83 GOOD	UNSP
7.12 ****	0.18	0	0.08	3.33 GOOD	UNSP
6.69 ****	1.19	0	-0.02	3.08 GOOD	UNSP
6.56 ****	1.17	0	-0.2	3.58 FAIR	UNSP
5.65 ****	0	0	2.33 POOR	UNSP	
4.54 ****	0	0.04	3.58 GOOD	UNSP	
4.1 ****	0	0	3.83 FAIR	UNSP	
3.7 ****	0	0	1.83 GOOD	UNSP	
3.12 ****	0	-0.01	2.25 GOOD	UNSP	
3.54 ****	0	0.03	3.42 GOOD	UNSP	
2.88 ****	0	0	1.83 FAIR	UNSP	
4.04 ****	0.3	0.5	-0.01	2.75 UNSP	UNSP
3.94 ****	0.15	0.4	0.01	3 GOOD	UNSP
4.41 ****	-0.1	0.5	0	2.67 GOOD	UNSP
4.51 ****	0.25	0	0	2.67 GOOD	UNSP
4.21 ****	0.2	0	0.01	2.83 GOOD	UNSP
3.61 ****	0.05	-0.5	-0.04	3.42 GOOD	UNSP

3.69 ****	-0.05	0.4	0	1.67 GOOD	UNSP
3.94 ****	0.1	0.5	0	2.5 GOOD	UNSP
3.5 ****	0	0.3	0	2.16 GOOD	UNSP
3.22 ****	-0.05	-0.3	0.02	3.08 GOOD	UNSP
3.6 ****	0	0	-0.02	1.58 GOOD	UNSP
4.84 ****	0	0	-0.03	3 GOOD	UNSP
5.52 ****	-0.1	0	-0.03	4.5 GOOD	UNSP
5.2 ****	0	0	-0.05	3.5 GOOD	UNSP
6.4 ****	0	0	-0.03	2.92 GOOD	UNSP
7.31 ****	-0.5	0.5	-0.02	2.83 GOOD	UNSP
9.18 ****	-0.6	0.5	0	3.33 GOOD	UNSP
9.37 ****	-0.1	0.6	0	3.58 GOOD	UNSP
8.47 ****	0	0	-0.05	3.16 GOOD	UNSP
10.53 ****	0	-0.2	0.06	3.67 GOOD	UNSP
8.46 ****	0.15	-0.3	-0.04	2.83 GOOD	UNSP
7.44 ****	0.5	-0.3	0	3.5 GOOD	UNSP
5.86 ****	0.65	-1	-0.08	3.67 GOOD	UNSP
5.8 ****	-0.1	-0.5	0.01	3.25 GOOD	UNSP
6.74 ****	-0.1	-0.4	0	3.25 GOOD	UNSP
9.35 ****	0.25	0.2	-0.07	3.58 GOOD	UNSP
19.18 ****	-0.05	0	-0.56	5.16 POOR	UNSP
21.42 ****	0	0.01	2.75 POOR	UNSP	
7.19 ****	0	0	3.75 POOR	UNSP	
6.72 ****	0	0.04	1.92 FAIR	UNSP	
6.17 ****	0	0.02	5 FAIR	UNSP	
6.62 ****	0	0	4.5 FAIR	UNSP	
7.34 ****	0	0.02	3.5 GOOD	UNSP	
7.2 ****	0	0	4.33 FAIR	UNSP	
8.3 ****	0	-0.03	3.33 FAIR	UNSP	
8.62 ****	0	0.05	4.08 POOR	UNSP	
5.04 ****	-0.15	-2.8	0.03	3.5 GOOD	UNSP

4.72	****	-0.15	0	0.09	3.08 GOOD	UNSP
4.28	****	-0.3	0.9	-0.02	3 GOOD	UNSP
6.72	****	-0.35	-0.5	0	2.92 UNSP	UNSP
6.36	****	0	0	0.01	3.16 GOOD	UNSP
5.94	****	0.1	-0.5	0.01	3.58 GOOD	UNSP
6.22	****	-0.1	-0.5	-0.02	3.16 GOOD	UNSP
6.7	****	-0.15	0.4	0.01	2.92 EXCL	UNSP
6.92	****	0.15	-0.8	0.02	3.5 GOOD	UNSP
8.26	****	0.1	-0.3	0.03	3.5 EXCL	UNSP
9.06	****	-0.1	0	-0.05	3.67 EXCL	UNSP
13.1	****	0	0	-0.2	2.75 EXCL	UNSP
12.06	****	-0.05	0.1	0.05	4.25 GOOD	UNSP
11.11	****	0.05	0.4	0.1	4.67 GOOD	UNSP
9.66	****	0	-0.2	-0.04	3.58 EXCL	UNSP
8.26	****	0.05	0.5	-0.07	3.58 GOOD	UNSP
5.78	****	0.05	-0.5	0	4.33 GOOD	UNSP
4.34	****	-0.05	0	-0.01	3.58 GOOD	UNSP
4.14	****	0	0	0	3.58 GOOD	UNSP
3.66	****	0	-0.3	0.01	3.08 GOOD	UNSP
3.54	****	0.4	0	0.01	3.67 GOOD	UNSP
3.87	****	0.2	-0.9	0.02	2.83 GOOD	UNSP
8.65	****	0	0	-0.08	4.08 GOOD	UNSP
11.86	****	0	0	-0.41	3.67 GOOD	UNSP
17.16	****	0	-0.96	3.33 POOR	UNSP	
19.57	****	0	-0.02	1.75 POOR	UNSP	
4.09	****	0	0.04	2.83 FAIR	UNSP	
3.33	****	0	0	2.83 FAIR	UNSP	
4.63	****	0	0	3.16 GOOD	UNSP	
4.95	****	0	0	2.58 GOOD	UNSP	
4.01	****	0	-0.03	4.5 GOOD	UNSP	
3.62	****	0	-0.01	4.33 GOOD	UNSP	
5.04	****	0	0	4.42 POOR	UNSP	
3.97	****	0	0.5	-0.02	2.83 GOOD	UNSP
4.06	****	-0.05	0.2	-0.01	2.16 GOOD	UNSP
5.52	****	0.35	-0.02	3.42 GOOD	UNSP	
2.47	****	0	0	2 UNSP	UNSP	
3.14	****	0	0.05	2.16 UNSP	UNSP	
3.03	****	-0.15	0.13	2.33 UNSP	UNSP	
2.22	****	0	-0.01	2.58 UNSP	UNSP	
3.06	****	0.15	-0.03	2.67 UNSP	UNSP	
5.26	****	0.45	-0.03	3 UNSP	UNSP	
6.53	****	0.35	-0.06	3.33 UNSP	UNSP	
9.99	****	0.15	-0.14	3.75 UNSP	UNSP	
8.06	****	0.05	-0.09	3.58 UNSP	UNSP	

10.64 ****	-0.15	-0.14	3.58 UNSP	UNSP
12.58 ****	0	-0.07	4.58 UNSP	UNSP
9.02 ****	-0.05	0.16	3.33 UNSP	UNSP
8.75 ****	-0.4	0.05	4.08 UNSP	UNSP
6.87 ****	0.15	0.02	3.25 UNSP	UNSP
4.92 ****	-0.1	-0.05	2.33 UNSP	UNSP

5.41 ****	0	-0.02	2.25 UNSP	UNSP
6.3 ****	-0.05	0	2.5 UNSP	UNSP
7.87 ****	1.1	-0.33	3.67 UNSP	UNSP
6.23 ****	0	0	1.75 UNSP	UNSP
5.27 ****	0	0	1.83 UNSP	UNSP
5.25 ****	0	0	2.16 UNSP	UNSP
4.71 ****	0	0	2.25 UNSP	UNSP
5.3 ****	1.4	-0.21	2.75 UNSP	UNSP
4.72 ****	1.1	0.08	2.5 UNSP	UNSP
3.72 ****	0.1	-0.01	1.75 UNSP	UNSP
3.61 ****	-0.05	0	1.75 UNSP	UNSP
3.14 ****	0	-0.02	1.5 UNSP	UNSP
3.1 ****	0	0	1.58 UNSP	UNSP
2.98 ****	0	0	1.5 UNSP	UNSP
3.78 ****	0.15	-0.04	1.67 UNSP	UNSP
4.22 ****	0.2	0	2 UNSP	UNSP
4.19 ****	0.05	0.08	1.83 UNSP	UNSP
3.93 ****	-0.1	-0.02	1.67 UNSP	UNSP
5.93 ****	0.1	0.04	2 UNSP	UNSP
6.14 ****	-0.15	-0.03	2 UNSP	UNSP
8.46 ****	-0.15	0	2.08 UNSP	UNSP
9.84 ****	-0.15	-0.04	2.58 UNSP	UNSP

10 ****	0.1	0.09	3 UNSP	UNSP
8.46 ****	0.15	0.04	2.25 UNSP	UNSP
10.4 ****	-0.15	-0.09	3 UNSP	UNSP
6.24 ****	-0.15	0	2 UNSP	UNSP
6.93 ****	-0.15	0	2.33 UNSP	UNSP
6.62 ****	-0.15	-0.07	2.58 UNSP	UNSP
8.92 ****	0.7	-0.28	3 UNSP	UNSP
5.66 ****	0	0.01	1.16 UNSP	UNSP
5.19 ****	0	0	1.25 UNSP	UNSP
5.35 ****	0	0.02	1.5 UNSP	UNSP
4.48 ****	0	0.02	1.25 UNSP	UNSP
4.94 ****	0	0.01	1.25 UNSP	UNSP
4.24 ****	0	-0.01	1.25 UNSP	UNSP
4.77 ****	0	0	1.67 UNSP	UNSP
5.2 ****	0	-0.01	1.83 UNSP	UNSP
5.98 ****	0	-0.01	3.25 UNSP	UNSP
5.52 ****	0	0.01	1.58 UNSP	UNSP
3.52 ****	-0.2	0	2 UNSP	UNSP
3.21 ****	0.05	0	2.43 UNSP	UNSP
2.63 ****	0.25	-0.02	1.92 UNSP	UNSP
2.78 ****	0.4	0	1.75 UNSP	UNSP
2.9 ****	0.4	0	1.92 UNSP	UNSP
2.88 ****	0.45	-0.01	1.83 UNSP	UNSP
3 ****	0.35	0.01	1.25 UNSP	UNSP
3.96 ****	0.25	-0.01	1.5 UNSP	UNSP
6.68 ****	0.1	-0.03	1.75 UNSP	UNSP
6.94 ****	-0.2	-0.03	2.16 UNSP	UNSP
12.85 ****	0.15	-0.18	3 UNSP	UNSP

11.7 ****	-1	0.55	2.16 UNSP	UNSP	
9.67 ****	-0.45	-0.03	2 UNSP	UNSP	
10.28 ****	0.3	-0.03	2.83 UNSP	UNSP	
8.79 ****	-0.1	0.07	2.42 UNSP	UNSP	
7.58 ****	0.5	-0.01	2.08 UNSP	UNSP	
5.04 ****	0.1	0.01	1.58 UNSP	UNSP	
5.53 ****	0.15	0	2.08 UNSP	UNSP	
4.48 ****	0.3	0.01	1.5 UNSP	UNSP	
6.26 ****	-2.65	0	2.25 UNSP	UNSP	
6.42 ****	-2.55	0	2.08 UNSP	UNSP	
6.24 ****	-2.45	0	2 UNSP	UNSP	
3.4 ****	-2.05	0.02	1.67 UNSP	UNSP	
5.06 ****	-2.2	-0.01	2.17 UNSP	UNSP	
5.22 ****	-2.85	-0.02	2.67 UNSP	UNSP	
3.38 ****	0	0	1.75 UNSP	UNSP	
3.23 ****	0	0	1.25 UNSP	UNSP	
3 ****	0.15	0	1.08 UNSP	UNSP	
2.95 ****	0.1	0	1.83 UNSP	UNSP	
2.78 ****	-0.05	0.02	1.67 UNSP	UNSP	
-2.4 ****	0	0.1	-0.01	1.5 UNSP	UNSP
-2.75 ****	0	0.1	-0.01	2.08 UNSP	UNSP
-2.76 ****	0	0	0	2 UNSP	UNSP
-2.69 ****	0	-0.4	-0.02	2 UNSP	UNSP
-1.96 ****	0	-0.24	0	2.67 UNSP	UNSP
-0.43 ****	-0.19	-0.02	4.42 UNSP	UNSP	
-1.51 ****	-0.55	-0.02	3 UNSP	UNSP	
-0.06 ****	-0.42	-0.03	2.92 UNSP	UNSP	
0.96	-0.44	-0.03	4 UNSP	UNSP	
3.25	-0.68	-0.02	4.5 UNSP	UNSP	
4.9	0	-0.1	4 UNSP	UNSP	
1.94	0	0.06	6.5 UNSP	UNSP	
2.48	0	-0.04	7 UNSP	UNSP	
2.58	0	-0.05	4 UNSP	UNSP	
2.65	0	-0.03	4 UNSP	UNSP	
3.66	0	0.08	5.5 UNSP	UNSP	
2.93	0	0	4 UNSP	UNSP	
1.92	0	0	4 UNSP	UNSP	
1.32	0	-0.04	3 UNSP	UNSP	
1.23	0	0.06	4 UNSP	UNSP	
2.9	0	0.5	5 UNSP	UNSP	
7	0	0.7 UNSP	UNSP		
7.32	0	0.25	2 UNSP	UNSP	
4.18	0	-0.02	2.5 UNSP	UNSP	
3.68	0	0.04	2.5 UNSP	UNSP	
3.04	0	-0.02	2.5 UNSP	UNSP	
1.74	0	-0.01	3 UNSP	UNSP	
-0.18	0	-0.07	4.5 UNSP	UNSP	

-0.2	0	0	3 UNSP	UNSP
0.71	0	-0.1	4 UNSP	UNSP
1.24	0	0.08	3 UNSP	UNSP

-0.7	0	0	3 UNSP	UNSP
-0.82	0	0	2.5 UNSP	UNSP
-0.76	0	-0.03	5.5 UNSP	UNSP
-0.48	0	0	3.5 UNSP	UNSP
-0.5	0	0	3.9 UNSP	UNSP
-0.5	0	-0.01	3.3 UNSP	UNSP
-0.44	0	-0.04	3.7 UNSP	UNSP
0.08	0	-0.01	5.8 UNSP	UNSP
0.08	0	-0.01	6.5 UNSP	UNSP
0.2	0	-0.05	6.9 UNSP	UNSP
0.2	0	-0.05	6.8 UNSP	UNSP
0.56	0	-0.05	3.5 UNSP	UNSP
1.13	0	-0.04	3.7 UNSP	UNSP
1.94	0	-0.09	4.3 UNSP	UNSP
3.11	0	-0.12	3.9 UNSP	UNSP
2.87	0 UNSP	UNSP		
0.92	0	0.4	4.2 UNSP	UNSP
-1.03	0	-0.1	3 UNSP	UNSP
-0.84	0	0.01	3.1 UNSP	UNSP
-1.1	0	-0.01	4 UNSP	UNSP
3.59	0	-0.02	4 UNSP	UNSP
6.9	0	-0.83	-0.14	7 UNSP UNSP
7.95	0	0.01	7.5 UNSP	UNSP
7.82	0	0.01	8 UNSP	UNSP
6.73	0	0.12	6 UNSP	UNSP

6.9	0	0.06	6.6 UNSP	UNSP	
5.86	0	0.99	0.43	5 UNSP	UNSP
3.42	0	0.09	5.8 UNSP	UNSP	
2.15	0	0	3.5 UNSP	UNSP	
1.4	0	0.01	3.5 UNSP	UNSP	
1.66	0	0	3.5 UNSP	UNSP	
5.05	0	-1.2	4.5 UNSP	UNSP	
5.44	0	0	3 UNSP	UNSP	
5.38	0	0.14	5.5 UNSP	UNSP	
0.98	0	0	2.5 UNSP	UNSP	
1.96	0	-0.02	3 UNSP	UNSP	
1.94	0	-0.02	2.3 UNSP	UNSP	
2.12	0	-0.03	3 UNSP	UNSP	
0.33	0	0.15	6 UNSP	UNSP	
1.52	0	-0.05	7 UNSP	UNSP	
0.66	0	-0.03	3 UNSP	UNSP	
0.96	0	0	2 UNSP	UNSP	
-0.2	0	0	2 UNSP	UNSP	
0.04	0	0	2.5 UNSP	UNSP	
0.24	0	-0.02	2 UNSP	UNSP	
1	0	-0.09	4.5 UNSP	UNSP	
0.48	0	-0.02	2 UNSP	UNSP	
2.86	0	0	2.8 UNSP	UNSP	
2.96	0	0	2.5 UNSP	UNSP	
6.43	0	-0.04	3.8 UNSP	UNSP	

7.84	0	-0.09	6 UNSP	UNSP
7.56	0	0.1	4 UNSP	UNSP
7.09	0	-0.24	6.2 UNSP	UNSP

6.39	0	0.22	6 UNSP	UNSP
6.81	0	-0.22	6 UNSP	UNSP
8.3	0	0.05	3.5 UNSP	UNSP
4.15	0	0	6.5 UNSP	UNSP
6.07	0	-0.06	5 UNSP	UNSP
5.83	0	0.14	8.3 UNSP	UNSP
4.5	0	0	5 UNSP	UNSP
2.32	0	0	3.8 UNSP	UNSP
2.34	0	-0.01	7.3 UNSP	UNSP
3.6	0	-0.2	6 UNSP	UNSP
2.02	0	-0.05	6.2 UNSP	UNSP
1.38	0	0	2.6 UNSP	UNSP
3.56	0	-0.42	6.2 UNSP	UNSP
6.16	0.83	0.09	0.5 UNSP	UNSP
3.8	0	-0.03	2 UNSP	UNSP
0.38	0	0	3 UNSP	UNSP
0.24	0	0	3 UNSP	UNSP
0.74	0	0	4 UNSP	UNSP
-0.26	0	0.02	3 UNSP	UNSP
-0.18	0	-0.02	3 UNSP	UNSP
-0.7	0	-0.01	2.5 UNSP	UNSP
-0.46	0	-0.02	4 UNSP	UNSP
0.61	0	0.08	3 UNSP	UNSP
1.7	0	-0.01	1.5 UNSP	UNSP
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0.84	0	-0.03	1.5 UNSP	UNSP
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3.98	0	0.05	5 UNSP	UNSP
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4.15	0	2	0.1	4 UNSP	UNSP
5.35	0	0.1	10 UNSP	UNSP	
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2.99	0	0.01	6 UNSP	UNSP	
3.82	0	-0.02	8 UNSP	UNSP	
8.81	0	-0.26	6.5 UNSP	UNSP	
2.63	0	0.02	4 UNSP	UNSP	
1.9	0	0	1.5 UNSP	UNSP	
1.6	0 UNSP	UNSP			
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5.39	0	-0.02	3.5 UNSP	UNSP	
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6.2	0	-0.2	4 UNSP	UNSP	
8.55	0	-0.1	3 UNSP	UNSP	
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2.98	0	0.17	3.5 UNSP	UNSP	
3.23	0	0.02	2 UNSP	UNSP	
2.06	0	0.02	2.5 UNSP	UNSP	
2.69	0	-0.02	3 UNSP	UNSP	
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[illegible]

[illegible]

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 6:30 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] I wasn't aware of the requirement.

Here's a snapshot for this morning.

Fort Peck: 2245.3, up 0.6 feet since ydy; top of gates 2250; current release rate 10,000 cfs
Garrison: 1850.7, up 0.3 feet; top of gates 1854; current release rate 70,000 cfs (record release)
Oahe: 1617.9, up 0.2 feet; top of gates 1620; current release 65,000 cfs (record release) Big Bend - normal operations
Fort Randall: 1356.0, up 0.5 feet; top of gates 1375; current release rate 59,000 cfs
Gavins Point - normal operations; current release rate 60,000 cfs

Big bend and Gavins Point have very little flood control storage and are currently within the normal operating range. Releases from Garrison to Gavins Point will be increased to the 85,000 cfs range over the coming week to two weeks.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Wednesday, May 25, 2011 3:41 AM
To: Farhat, Jody S NWD02
Cc: W [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Hi Jody-you need to be sending HQ daily reservoir summaries when you're experiencing flooding. Please copy all of us on the cc line above. Also, we need them by 0830 EDT to have them in time to be of use at the 0900 UOC briefing.
The EM chain isn't sufficient, we need info via the H&H chain. Know that we're not picking on you--everyone is expected to keep us posted during flooding.
Thanks for your help with this.

-----Original Message-----

From: Hunter, John W HQ02
Sent: Tuesday, May 24, 2011 10:25 PM
To: Shepp, David L HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

Looks like NWD is not reporting to the UOC or HQ.

[REDACTED]

Senior Hydraulic Engineer
Headquarters, US Army Corps of Engineers
441 G St. NW
Washington DC 20314-1000
Phone (202) 761-4826
Cell (202) 297-4577

-----Original Message-----

From: Dalton, James C HQ02
Sent: Tuesday, May 24, 2011 6:16 PM
To: Halpin, Eric C HQ02; Bank, Robert HQ02; Deloach, Stephen R HQ02; Tutka, Travis HQ02; Conforti, Tammy L HQ02; Webb, Jerry W HQ02; Hunter, John W HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

See note below.

[REDACTED]

[REDACTED]

James Dalton, P.E., SES
Chief Engineering and Construction
HQ U.S. Army Corps of Engineers

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, May 24, 2011 10:19 AM
To: Grisoli, William T MG HQ02; [REDACTED]; Dalton, James C HQ02; Smith, John W HQ02; LeMaster, Darren D HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYSA.....

[REDACTED]

[REDACTED]

Steven J. Stockton, P.E., SES
Director Civil Works, USACE

(W) (202) 761-0100
(Cell) (202) 491-0925

Steven.J.Stockton@us.army.mil

From: [REDACTED]
Sent: Tuesday, May 24, 2011 8:38 AM
To: Stockton, Steven L #002

Classification: UNCLASSIFIED
Caveats: NONE

FYI

Deputy Chief (Civil Works)
Northwestern Division
Regional Integration Team (RIT)
U.S. Army Corps of Engineers
[REDACTED]
3C93
Washington, D.C. 20314-1000

-----Original Message-----

From: [REDACTED]
Sent: Monday, May 23, 2011 6:29 PM
To: [REDACTED]
Subject: Lots more water coming down the Missouri River - now!

<file:///C:/DOCUME~1/g6pa9krq/LOCALS~1/Temp/msohtmlclip1/01/clip_image001.jpg>

U.S. ARMY CORPS OF ENGINEERS
BUILDING STRONG®
NEWS RELEASE

For Immediate Release: May 23, 2011
Contact: [REDACTED]

Lots more water coming down the Missouri River - now!

Omaha, Neb. - Repeated rounds of heavy rain across Montana and the Dakotas, coupled with far above normal mountain snowpack, have pushed reservoirs to a level which calls for aggressive water releases from Missouri River mainstem dams, said Jody Farhat, Chief of the Corps' Missouri River Basin Water Management Division in Omaha.

"The upper Missouri River is seeing dramatic increases in flows, particularly after as much as eight inches of rain fell over the weekend in portions of eastern Montana and western North Dakota," Farhat said. "Unusually heavy precipitation, combined with late season heavy snowpack in parts of the Missouri Basin, means we will see near-record runoff in the Missouri basin."

Farhat thinks it is possible that Garrison Dam may be within a foot of the top of its spillway gates by this time next week. "We're beginning to make some major adjustments to water releases, starting with Fort Peck south to Gavins Point Dam and expect to do so for some time since the extended forecast is calling for more of the same."

Garrison Dam releases were increased to 60,000 cubic feet per second (cfs) today and will be stepped up until they reach 75,000 cfs on Wednesday. At the same time, releases from the upstream reservoir Fort Peck will be reduced from the current rate of 20,000 cfs to 10,000 cfs to help stem the rise of Garrison reservoir. Garrison reservoir is expected to reach 1853 feet by this weekend due to the high flow on the Yellowstone and Little Missouri Rivers. Fort Peck reservoir is also climbing rapidly due to weekend's rainfall and low elevation snowmelt. It is expected to rise 2 feet this week, reaching 2246 by the weekend.

Oahe Dam releases will transition from 60,000 cfs today to 70,000 cfs by mid-week. Farhat expects the Oahe reservoir to reach 1618 feet by the weekend and continue to slowly drift upward over the next few weeks, perhaps peaking in mid-June. The record pool at Oahe is 1618.7 feet, set in 1995 and repeated in 1996. The peak pool level in 1997 was 0.1 foot lower at 1618.6.

Fort Randall has some space to store water, but the river reach between there and Gavins Point is already at bankfull. Gavins Point releases were increased to 60,000 cfs this afternoon and will be slowly ramped up over the coming days, possibly reaching 75,000 cfs in June unless conditions improve. This will eventually necessitate a similar magnitude increase in Fort Randall's releases.

Travel time for water released from Garrison Dam to reach the Bismarck area is about 36 hours. River managers are expecting stages of approximately 16.5 to 17 feet in the Bismarck area when the river stabilizes. The Corps' Omaha District office has deployed technical teams to help prepare for flood fighting around Bismarck and to assess the flood potential in the Pierre area.

"As already seen in other parts of the nation, high water years always bring pain and suffering with them," said Farhat. "We are doing everything we can to protect people and their property and reduce the extent and impact of flood stages along the Missouri. The situation in the Missouri River basin is changing rapidly and planned releases are subject to change with little notice." Residents who live and work in flood-prone areas should remain vigilant and be prepared to follow recommendations from their local emergency management offices.

For more information, visit the Spring 2011 Flood Response site at www.nwo.usace.army.mil.

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<<http://us.vocuspr.com/Url.aspx?520028x486114x-457220>>

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<http://us.vocuspr.com/Url.aspx?520028x24891x315969x3x1875270x24000x68x11-Steve%20Fischer%40usace.a>

U.S. Army Corps of Engineers, 1616 Capitol Ave., Omaha, NE 68102 United States

Classification: UNCLASSIFIED

Caveats: NONE

Oahe: 1617.9, up 0.2 feet; top of gates 1620; current release 65,000 cfs (record release) Big Bend - normal operations Fort Randall: 1356.0, up 0.5 feet; top of gates 1375; current release rate 59.000 cfs Gavins Point - normal operations; current release rate 60,000 cfs

Big bend and Gavins Point have very little flood control storage and are currently within the normal operating range. Releases from Garrison to Gavins Point will be increased to the 85,000 cfs range over the coming week to two weeks.

Jody

-----Original Message-----

From: Shepp, David L HQ02

Sent: Wednesday, May 25, 2011 3:41 AM

To: Farhat, Jody S NWD02

Cc: Webb, Jerry W HQ02; Hunter, John W HQ02; Pearre, Charles M HQ02; Tutka, Travis HQ02; Shepp, David L HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Importance: High

Classification: UNCLASSIFIED

Caveats: NONE

Hi Jody-you need to be sending HQ daily reservoir summaries when you're experiencing flooding. Please copy all of us on the cc line above. Also, we need them by 0830 EDT to have them in time to be of use at the 0900 UOC briefing.

The EM chain isn't sufficient, we need info via the H&H chain. Know that we're not picking on you--everyone is expected to keep us posted during flooding.

Thanks for your help with this.

Dave

-----Original Message-----

From: Hunter, John W HQ02

Sent: Tuesday, May 24, 2011 10:25 PM

To: Shepp, David L HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Dave,

Looks like NWD is not reporting to the UOC or HQ.

John W Hunter P.E.

Senior Hydraulic Engineer
Headquarters, US Army Corps of Engineers

441 G St. NW

Washington DC 20314-1000

Phone 202-761-4826

Cell 202-297-4577

-----Original Message-----

From: Dalton, James C HQ02

Sent: Tuesday, May 24, 2011 6:16 PM

To: Halpin, Eric C HQ02; Bank, Robert HQ02; DeLoach, Stephen R HQ02; Tutka, Travis HQ02; Conforti, Tammy L HQ02; Webb, Jerry W HQ02; Hunter, John W HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

See note below.

[REDACTED]
[REDACTED]
James Dalton, P.E., SES
Chief Engineering and Construction
HQ U.S. Army Corps of Engineers
Office: 202-761-8826
Cell: 202-297-0726

-----Original Message-----

From: [REDACTED] Stockton, Steven I HQ02

Sent: Tuesday, May 24, 2011 10:19 AM

To: Grisoli, William T MG HQ02; [REDACTED] HQ02; Dalton, James C HQ02; Smith,

Thomas P COL HQ02; LeMaster, Darren D MAJ HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

FYSA.....

[REDACTED]
[REDACTED]
Steven I. Stockton, P.E., SES
Director Civil Works USACE
Office: 202-761-8100
Cell: 202-491-0925
[REDACTED]
[REDACTED] stockton@us.army.mil

-----Original Message-----

From: [REDACTED] Fleming, Lisa HQ

Sent: Tuesday, May 24, 2011 8:38 AM

To: [REDACTED] Stockton, Steven I HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

FYI

[REDACTED]
Lisa M. Fleming, P.E.
Deputy Chief (Civil Works)
Northwestern Division
Regional Integration Team (RIT)
U.S. Army Corps of Engineers
[REDACTED]
3C93
Washington, D.C. 20314-1000

[REDACTED] (voice)
[REDACTED]
[REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: U.S. Army Corps of Engineers [mailto:kevin.r.quinn@usace.army.mil]
Sent: Monday, May 23, 2011 6:29 PM
To: Fischer, Steven A NWK
Subject: Lots more water coming down the Missouri River - now!

<file:///C:/DOCUME~1/g6pa9krq/LOCALS~1/Temp/msohtmlclip1/01/clip_image001.jpg>

U.S. ARMY CORPS OF ENGINEERS
BUILDING STRONG®
NEWS RELEASE

For Immediate Release: May 23, 2011

Contact: [REDACTED] 402-996-3040
[REDACTED]@usace.army.mil
[REDACTED] 402-996-3040
[REDACTED]@usace.army.mil

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<<http://us.vocuspr.com/Url.aspx?520028x486114x-457220>>

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optout.com/oprcout.aspx?520028x24091x315909x5x1875270x24000x6&Email=Steven.A.Fischer%40usace.army.mil

U.S. Army Corps of Engineers, 1616 Capitol Ave., Omaha, NE 68102 United States

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----
From: [REDACTED]
Sent: Wednesday, May 25, 2011 8:35 AM
To: Farhat, Jody S NWD02; [REDACTED]
Subject: FW: Storage at projects upstream of Garrison and Fort Peck (UNCLASSIFIED)
Importance: High

Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

-----Original Message-----
From: [REDACTED]
Sent: Wednesday, May 25, 2011 7:58 AM
To: [REDACTED]; [REDACTED]; [REDACTED]; Felchle, Timothy (Tim) H.; jlawson@usbr.gov
Cc: Remington, John L NWO; Clamman, Alexander J NWO; Twombly, Brian J NWO; Seefus, Kathryn J
[REDACTED]; Shroyer, Timothy F NWO; Keasling, Robert NWO; Grode, Kevin R NWDG2; Herxino, Tom J
[REDACTED]
Subject: Storage at projects upstream of Garrison and Fort Peck (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Patrick, Gordon, Tim, and John

I am going to be scheduling a conference call today to discuss storage at projects in Montana and Wyoming. Up to now we had been on the course of normal operations - operate to base of flood control zone.

The situation has changed.

With the recent rain in Montana Garrison is seeing record inflows. The current plan is to increase releases to 85,000 cfs from Garrison by Monday. Garrison and Oahe are in their

exclusive flood control zones and Ft Peck will be there in the next week. The 85,000 cfs release will move down the mainstem system with all projects below Garrison also setting release records.

With the critical situation on the Missouri River mainstem we need to store as much water as possible in the reservoirs upstream of Fort Peck and Garrison.

I would like to discuss all projects in detail on the call.

I would appreciate you considering the following actions immediately: reduce Tiber's release to 400 cfs and reduce Boysen's release as much as possible to reduce inflows into Yellowtail immediately allowing Yellowtail to hold its current release of 4500 cfs or reduce further.

Garrison's peak from the rain event is forecast May 31. If we can provide relief to that peak we could evacuate built up storage after that before the snowmelt kicks into high gear.

I am well aware of the snow we still have coming from the mountains. I'm asking for your best judgment in helping us balance the risk in the whole basin by storing as much water as possible upstream of the mainstem projects. Thanks in advance for your cooperation and effort.

[REDACTED]
Chief, Water Control and Water Quality Section U.S. Army Corps of Engineers, Omaha District
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Burke, Linda F NWO

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 9:46 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: rain around billings (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This from Gordon Aycock of the BOR:

We had a record rain event in Billings yesterday 3.12 inches of precip the most for any day of the year. A lot of flooding around Billings.

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 9:55 AM
To: [REDACTED]
Subject: RE: Spillway Bank erosion (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks for the update [REDACTED] This is good news.

-----Original Message-----

From: Daggett, John E NWO
Sent: Wednesday, May 25, 2011 9:54 AM
To: [REDACTED]; [REDACTED]; Gregory NWO; Ruckman, Jody L NWO; Thomas, Kimberly S NWO; Farhat, Jody S NWD02
Subject: FW: Spillway Bank erosion (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

Attached are pictures of our spillway Stilling Basin. You can see some of the new erosion which isn't that much. The spillway performed well. We will keep our eye on this when we resume the spill again. Not problems noticed yet.

[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Wednesday, May 25, 2011 8:26 AM
To: [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]
Subject: Spillway Bank erosion (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All photos were taken from the west wing wall. I'll try to get some from the east today.

[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 5:42 PM
To: Daggett, John E NWO
Subject: RE: Top of Fort Peck Spillway Gates (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

John: When we get back to operating the spillway, do you generally open all 16 gates the same amount, or do you make the releases out of a fewer number of gates? This matters because if all gates are operated it essentially raises that "top of gate" elevation.

Jody

-----Original Message-----

From: Daggett, John E NWO
Sent: Wednesday, May 25, 2011 2:10 PM
To: Farhat, Jody S NWD02; Knofczynski, Joel D NWD02; Swanda, Ken A NWO
Cc: Schenk, Kathryn M NWO; Mellema, Gregory NWO; McMurry, Darin J NWO; Dingman, Harold E NWO; Bartel, Larry A NWO; Ruckman, Jody L NWO; Kelly, Michael T NWO; Sobczyk, David F NWO; Thomas, Kimberly S NWO
Subject: Top of Fort Peck Spillway Gates (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

I'm sure most of you know this information but I want to make sure. The top of the Spillway Gates are 2250.5 ft even though top of Exclusive is 2250.0 ft. In 1997 we went to 2250.31 and did not over top the gates. Also, in 1975 the Spillway Gates were overtopped when the reservoir elevation rose to 2251.6 ft with 35,000 cfs being released through the dam and spillway.

John E. Daggett, P.E.
U.S. Army Corps of Engineers
Operations Project Manager
Fort Peck Project
Fort Peck, Montana 59223
PH: 406-526-3411

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 9:55 PM
To: [REDACTED]; Michael A NWD02; Grude, Kevin R NWD02
Cc: [REDACTED]
Subject: RE: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] that you told them is correct - our release schedule to 85,000 cfs is not changing. [REDACTED] just sent you a note about the planned CODEL call at 0800 tomorrow morning. I would tell the state that we are updating forecasts looking out at a longer range forecast to include the snowmelt period and will be making an announcement on that call.

I'll call the weather service guy and relay the same information.

I'm still at the office. Call if you want to discuss.

Jody

-----Original Message-----

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 9:46 PM
To: [REDACTED]; Michael A NWD02; Grude, Kevin R NWD02; Farhat, Jody S NWD02
Cc: [REDACTED] NWD
Subject: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

All,
I'm in the State EOC and they received a call from the NWS office here in Bismarck, they asked the State if a rumor they'd heard about USACE increasing releases even higher and on a more aggressive schedule was true? The state handed the phone to me. I re-iterated the current forecast of 80,000 cfs from Garrison Friday and 85,000 cfs on Monday. He conveyed his concern that the State EOC be notified if there was any truth to what he'd heard and asked if I could verify whether this was only a rumor with Omaha. He requested a return call. It was Jeff Zavocol (SP?) at 701-202-6381. Please advise regarding a response.

[REDACTED]
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 10:30 PM
To: [REDACTED]
Subject: RE: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I understand. I quit answering my phone after our call at 1:00.

-----Original Message-----

From: [REDACTED]
Sent: Wednesday, May 25, 2011 10:20 PM
To: Farhat, Jody S NWD02; [REDACTED]
Subject: Re: National Weather Service Call (UNCLASSIFIED)

I'm headed home. I no longer look people in the eye and tell them the forecast is 85,000 cfs from Garrison.

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: Farhat, Jody S NWD02
To: [REDACTED]
Cc: [REDACTED]
Sent: Wed May 25 19:54:31 2011
Subject: RE: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] What you told them is correct - our release schedule to 85,000 cfs is not changing. Katie just sent you a note about the planned CODEL call at 0800 tomorrow morning. I would tell the state that we are updating forecasts looking out at a longer range forecast to include the snowmelt period and will be making an announcement on that call.

I'll call the weather service guy and relay the same information.

I'm still at the office. Call if you want to discuss.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Wednesday, May 25, 2011 9:46 PM
To: [REDACTED] Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

All,
I'm in the State EOC and they received a call from the NWS office here in Bismarck, they asked the State if a rumor they'd heard about USACE increasing releases even higher and on a more aggressive schedule was true? The state handed the phone to me. I re-iterated the current forecast of 80,000 cfs from Garrison Friday and 85,000 cfs on Monday. He conveyed his concern that the State EOC be notified if there was any truth to what he'd heard and asked if I could verify whether this was only a rumor with Omaha. He requested a return call. It was Jeff Zavocol (SP?) at 701-202-6381. Please advise regarding a response.


Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 11:33 PM
To: [REDACTED]
Subject: 3-week (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] Mike I changed my mind. I only want to make the change in Oahe releases discussed at the meeting tonight to avoid confusion. Too many folks already have copies of that studies. We'll just tell folks that the come up schedule for the lower three reservoirs is not firm at this point

Jody
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 10:36 PM
To: Farhat, Jody S NWD02
Subject: Re: National Weather Service Call (UNCLASSIFIED)

I want to make the call to the Governor. That's the easy part! At least he will understand. The folks I get to face will not.

Message sent via my BlackBerry Wireless Device

----- Original Message -----
From: Farhat, Jody S NWD02
To: [REDACTED] NWO
Sent: Wed May 25 20:29:32 2011
Subject: RE: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

I understand. I quit answering my phone after our call at 1:00.

-----Original Message-----
From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 10:20 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Cc: Schenk, Kathryn M NWO
Subject: Re: National Weather Service Call (UNCLASSIFIED)

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Message sent via my BlackBerry Wireless Device

----- Original Message -----
From: Farhat, Jody S NWD02
To: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02
Cc: Schenk, Kathryn M NWO
Sent: Wed May 25 19:54:31 2011
Subject: RE: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Todd, what you told them is correct - our release schedule to 85,000 cfs is not changing. Katie just sent you a note about the planned CODEL call at 0800 tomorrow morning. I would tell the state that we are updating forecasts looking out at a longer range forecast to include the snowmelt period and will be making an announcement on that call.

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I'm still at the office. Call if you want to discuss.

Jody

-----Original Message-----

From: [REDACTED] NWO

Sent: Wednesday, May 25, 2011 9:46 PM

To: [REDACTED] NWD02; [REDACTED] NWD02; Farhat, Jody S NWD02

Cc: Schenk, Kathryn M NWO

Subject: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: FOUO

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[REDACTED]
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 10:20 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Cc: Schenk, Kathryn M NWO
Subject: Re: National Weather Service Call (UNCLASSIFIED)

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----- Original Message -----

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To: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02
Cc: Schenk, Kathryn M NWO
Sent: Wed May 25 19:54:31 2011
Subject: RE: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

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Jody

-----Original Message-----

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To: [REDACTED] NWD02; [REDACTED] NWD02; Farhat, Jody S NWD02
Cc: Schenk, Kathryn M NWO
Subject: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

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[REDACTED]
Operations Project Manager

Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 10:07 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; [REDACTED] NWO; [REDACTED] HQ02; Fema-R8-RRCC-DIRECTOR@dhs.gov; Hutson, Marc B COL MIL USA USARNORTH
Subject: Flood Update #70 (UNCLASSIFIED)
Attachments: 24hrPrecip25May2011.jpg; dailybull 5.25.11.pdf; Day1QPF25May11.gif; Day2QPF25May11.gif; Day3QPF25May11.gif; TempOutlook_25May11.xlsx; Spillway 5-25-11 017.jpg; Spillway 5-25-11 019.jpg; Spillway 5-25-11 016.jpg; StateofSD_EM_TechandDirectAssistanceFtPiereandPiere.pdf; Bismarck_85kcfs_05252011reduced.pdf; Oahe_Inundation_85000cfs_05252011.pdf; Spillway 5-24-11 001.jpg

Classification: UNCLASSIFIED

Caveats: FOUO

****EMERGENCY OPERATIONS****

Information Cutoff: 1400 25 May 2011

1. Situation:

Repeated rounds of heavy rain, coupled with record plains snowpack have pushed the Missouri River Reservoirs to very high levels that requires aggressive and large releases.

A District CMT brief was held today and will continue daily. A CODEL call will be held tomorrow morning with all congressional stakeholders as well as State stakeholders. Most folks understand the situation and are concerned yet realize the need to evacuate the reservoirs and mitigate risks.

Numerous CODEL calls were received today.

Omaha District received a request for Emergency Operations Technical and Direct Assistance for the City of Pierre and Ft. Pierre. Technical and contracting teams are on the ground assessing the situation and preparing for path forward.

Omaha District received a verbal request today for Advanced Measures Technical Assistance for Fremont County, near the Wind River Reservation and communities along the North Platte River. Specifically, they are requesting USACE personnel to be on the ground providing technical assistance to these areas. An official letter request is expected shortly.

Garrison Dam releases were increased to 75k cfs this morning. Releases are scheduled to be increased to 80k cfs on Friday and 85k cfs on Monday, 30 May.

Oahe Dam releases were increased to 70k cfs today. Releases are scheduled to be increased to 75k cfs on Thursday, 80k cfs on Friday, and 85k cfs on Saturday. Higher releases at Big Bend are continuing to help reduce the backwater affect in Pierre, SD.

Bryan Flere, Omaha District Levee Safety PM, contacted all the main stem NWO District PL 84-99 federal levee sponsors along the Missouri River downstream of Gavins. All sponsors are situational aware of Missouri River and Platte River flows. Sponsors have been notified to begin activating their monitoring plans for their levees.

Attached are photos of the Ft. Peck spillway gates and downstream erosion at the spillway stilling basin.

2. Weather:

2a. Past Precipitation:

Rain continued to fall throughout most of the Omaha District for the past 24 hours ending at 7:00 am CDT 25 May 2011. The basin above Fort Peck and the Upper Yellowstone once again received rainfall ranging from 1.00" up to 3.00". All of Montana except the extreme northeast corner generally received from 0.25-0.50" with some areas in the 0.50-0.75" range. The heaviest amounts in South Dakota were 1.5-2.0" with rainfall extending from northwestern South Dakota to Fort Randall. Most of Wyoming within the Missouri basin received from 0.10-0.50". A large portion of northeastern Colorado received as much as 4.00" with the north central portion receiving 0.10-0.75". All but a small area of Nebraska received rain with the heaviest amounts occurring in the south central portion. A few counties had from 3.00-4.00" with a larger area receiving from 1.50-2.00". Most of western Iowa had 1.00-1.50".

2b. Future Precipitation:

The day 1 QPF (700 hours Wednesday to 700 hours Thursday) Forecasts a 1.00" band of precipitation extending from south central Nebraska past Sioux City, Iowa. Areas to the west of this band are expected to receive under 1.00" with the Nebraska panhandle and Wyoming receiving only 0.01-0.10". Central and western Montana are forecast to receive 0.20" and less. See attached.

The day 2 QPF (from 700 hours Thursday to 700 hours Friday) has amounts under 0.50" across Montana, North Dakota, South Dakota, Nebraska, and western and eastern Wyoming. See attached.

The day 3 QPF (from 700 hours Friday to 700 hours Saturday) Light rainfall is forecasted from 0.01-0.50" over western and central Montana, the eastern two thirds of North and South Dakota, portions of Wyoming, most of Nebraska and all of western Iowa.

3. Hydro Status:

3a. River (Flood Stage/Current Stage/Forecast/Date of Peak: Peak Stage)

Montana

- * Little Bighorn River near Hardin/8.0/9.0/receding/May 23: 12.31
- * Tongue River at Miles City/11.0/7.2/receding/May 21: at 14.1
- * Yellowstone River at Miles City/13.0/14.33/receding/May 24: 14.74
- * Yellowstone River at Glendive/53.5/55.16/receding/May 23: 56.38
- * Yellowstone River near Sidney/19.0/21.81/receding/May 24: 21.92
- * Musselshell River near Harlowton/7.0/9.01/cresting/May 25: 9.20

North Dakota

- * James River at Jamestown/12.0/11.68(1,830 cfs)/steady/
- * James River at LaMoure/14.0/11.33'/slow decline/
- * Little Missouri River at Medora/15.0/20.45/cresting/May 25: 20.60

South Dakota

- * Little Missouri River near Camp Crook/12.0/18.46/crested/May 24: 19.27
- * Cheyenne River near Plainview/16.0/19.33/cresting/May 25: 19.37
- * White River near White River/14.0/11.23/increasing/May 26: 13.80

Nebraska

- * North Platte River at State Line/5.5/5.91/steady/May 25: 6.02
- * North Platte River near Mitchell/7.5/8.96/steady/May 24-25: 9.0
- * North Platte River at North Platte/6.0/7.44/steady/May 25: 7.5 and steady
- * Platte River at Kearney/6.0/6.05/increasing/May 27: 6.8
- * Missouri River at NE City/18.0/21.16/increasing/May 28: 23.2
- * Missouri River at Brownville/33.0/36.77/increasing/May 28: 40.4
- * Missouri River at Rulo/17.0/20.04/increasing/May 29: 24.0

3.b Reservoirs:

Pipestem Reservoir (ND) is steady at elevation 1486.82 ft msl. Yesterday's daily inflows were 277 cfs. Releases were increased from 200 cfs to 400 cfs today at 0900 hours. 70.7% of the flood pool is occupied.

Jamestown Reservoir (ND) fell 0.27' yesterday to elevation 1448.76 ft msl. Yesterday's inflows were 500 cfs. Releases were reduced to 1,400 cfs today at 0900 hours. 66.1% of the flood pool is occupied.

Bowman Haley fell 0.38 ft to elevation 2757.59 ft msl with inflows of 558 cfs and releases of 748 cfs. 7.3% of the flood control pool is occupied.

Heart Butte has 11.2% of its flood control pool occupied, Pactola has 4.4%, and Shadehill has 5.3%.

Yellowtail rose 2.9 ft yesterday to elevation 3619.30 ft msl with inflows of 14,600 cfs and a 4,400 cfs release. 77.0% of its multipurpose pool is occupied.

Note all inflows and releases are average daily and the pool elevation is the midnight value. Today's releases are the scheduled daily release.

Fort Peck Dam (MT)

5/24 Pool Elev: 2245.27 ft-msl
24 hr change: 0.59'
5/24 Ave Inflow: 85,000 cfs
5/24 Ave Release: 11,100 cfs
5/25 Scheduled Release: 10,000 cfs

Garrison Dam (ND)

5/24 Pool Elev: 1850.70 ft-msl
24 hr change: 0.30'
5/24 Ave Inflow: 120,000 cfs
5/24 Ave Release: 65,600 cfs
5/25 Scheduled Release: 73,300 cfs

Oahe Dam (SD)

5/24 Pool Elev: 1617.86 ft-msl
24 hr change: 0.24'
5/24 Ave Inflow: 112,000 cfs
5/24 Ave Release: 63,500 cfs
5/25 Scheduled Release: 68,000 cfs

Big Bend Dam (SD)

5/24 Pool Elev: 1420.01 ft-msl
24 hr change: -0.42
5/24 Ave Inflow: 44,000 cfs
5/24 Ave Release: 67,100 cfs
5/25 Scheduled Release: 83,500 cfs

Fort Randall Dam (SD)

5/24 Pool Elev: 1355.98 ft-msl
24 hr change: 0.53'
5/24 Ave Inflow: 80,000 cfs
5/24 Ave Release: 59,700 cfs
5/25 Scheduled Release: 63,000 cfs

Gavins Point Dam (NE-SD)

5/24 Pool Elev: 1206.49 ft-msl
24 hr change: -0.15
5/24 Ave Inflow: 58,000 cfs
5/24 Ave Release: 60,100 cfs
5/25 Scheduled Release: 60,000 cfs

4.a Emergency Operations:

4.a.1 Nebraska - NWO personnel returned to the District office today. Currently, there are no personnel currently in North Platte. State of Nebraska EM is arranging a meeting tentatively set for Friday to review North Platte status and path forward. Intent is to have current forecast and mapping available at that time.

4.a.2 Montana - [REDACTED], Omaha District Tribal Liaison, continues to provide assistance the Crow Nation tribes and other tribes in Montana.

4.a.3 North Dakota - NWO technical teams are continuing to coordinate with the State and local officials in Bismarck and Mandan area. The City of Mandan has currently only requested technical assistance. NWO officials meet with the City today to discuss the situation. The City of Mandan will be constructing a levee in the vicinity of 19th and 21st Street SE. Concerns were raised by the City about their Sewage Treatment Plant and Lagoons. NWO technical team was sent to look at the facility. Recommendation will be given to the City. The City of Bismarck is currently construction two segments of temporary protective measures. The first is on Riverwood Drive and consist of approximately 3400 feet of Hescos. The second segment is on Mills Ave where the city is building a two lane levee along the existing road. NWO teams are currently preparing scopes of work for an earthen levee from Riverwood Drive to a location just south of Munich Drive, approximately 2000 feet. Max earthen fill required is 5 feet. A second area of work will be at the Sewage Treatment Plant and Lagoons. The final area of work will consists of temporary protective measures for the Prairie Rose Elementary school. Scope of work details for these areas are being currently worked. The team is also working a technical assistance request from the Department of Corrections State Prison Farm facility because of shoreline erosion, located south of Bismarck.

NWO has currently has a team of 5 performing 24 hour surveillance on the Williston, ND levee. The levee is owned, operated, and maintained by USACE. This effort is funded from Operations not FCCE. River stages are expected to crest today. Currently, there is 4-5' of freeboard. The forecast for Williston tomorrow is for winds out of the east/southeast gusting 30-40 mph. This could produce wave heights of 2-3 feet and wave run-up of 3-4 feet on the Williston levee.

[REDACTED] deployed today to serve as the NWO Liaison in the ND EOC.

4.a.4 South Dakota - NWO technical teams are continuing to coordinate with the State and local officials. Currently, Fort Pierre is only requesting technical assistance. The community is preparing to construct a road raise and additional temporary protective measures for local utilities. Currently, the City of Pierre is requesting USACE to look at a potential road raise and the protection of wells on the water front. Technical teams are currently evaluating these areas and will prepare a scope of work if necessary. Chuck McWilliams deployed today to serve as the NWO Liaison and PAO support to the SD EOC. A contracting team and two construction representatives will deploy to Pierre tomorrow.

NWO has deployed a team of two to perform dam surveillance at Fort Randall. A sink hole near the spillway was discovered this afternoon. No additional information at this time.

4.a.5 Support to Others

Alabama Tornadoes: Tim Gouger is currently deployed as the Debris SME to St. Louis. James Muilenburg is deployed to SAM as an LGL

\$3M funding has been received Omaha District, Mission Assignment and Mission Tasking are approved as of 1900 today. After discussions with John Jacobson, it was determined the most defensible strategy for award is to include entire SOS, solicit bids, and then award, but cut time where possible. Tentative schedule for award is as follows: RFP issued May 26, 2011, Proposals due Tuesday, May 31, 2011, Contractor Selection Wednesday June 1, 2011, and Award\NTP issued Friday June 27, 2011. USACE reps within NRCC, RRCC, JFO, and in Joplin have comprehension for the same. Kansas City will commence with Curb-side segregation of HHW via an 8a contractor in near future and may issue a letter contract for Urban Search and Rescue. Actions Items for tomorrow: RFP to be issued to unrestricted SDIC contractors tomorrow. RM needs to provide confirmation that the Funding Source Code provided is suitable. As confirmation is provided, EM to resource \$2.7M for Task Order Award, \$100k labor, and \$50k for travel. Maintain Coordination with contracting for finalization of RFP. Develop IGE. Maintain coordination with FEMA, and USACE reps located in the NWD Debris PRT, RRCC, NRD, MVD, and Omaha District concerning debris planning and execution strategies and resources.

4.b Funding:

- * Total Code 200 Funding received to date for this event: \$2,206,425
- * Total Code 200 Funding revoked to date for this event: \$2,600,000
- * Class 219 - Emergency Operations - Direct Assistance - \$250,000 - WAD and FAD received 3/14/2011
- * Class 219 - Emergency Operations - Direct Assistance - \$3.825M - WAD received 03/15/11. FAD received 03/16/11.
- * Class 219 - Additional Funds Request on 24 March - \$231,425 - WAD and FAD received 03/24/11.
- * Class 219 - Emergency Operations - Direct Assistance - \$2.5M revoked - 4/13/11
- * Class 219 - Emergency Operations - Direct Assistance - \$100k revoked - 4/22/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$56k - MIPR - 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$25k - Request and received for EOC Operations and deployments on 4/30/11
- * Class 200 - Emergency Operations - Response Operations - \$500,000 - WAD received on 05/25/2011

4.c Number of Personnel Supporting EOC Operations: 52

4.d EOC Activation - Level III - Partial Activation(Hours: 0700 to 1900)

ADVANCE MEASURES

1. Situation:

Currently monitoring high mountain snow water equivalents in WY and MT.

2. Advance Measures:

2.a.2 WYOMING - NWD has forwarded the Elk Mountain, WY PIR to HQ for approval.

2.b Funding:

- * Total Code 500 Funding received to date: \$787,904
- * Class 520 Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/2/11.
- * Class 52A Additional Request for Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/10/11.
- * Class 520 Additional Request for Funding - Advance Measures - Technical assistance - \$101,640. WAD and FAD received on 3/24/11.
- * Class 519 Funding - Advance Measures - Direct Assistance - \$376,264. WAD and FAD received on 3/28/11.

* Class 520 Funding - Advance Measures - Technical assistance - \$110k - FAD received on 05/12/11.

2.c Number of Personnel Supporting Advance Measures EOC Operations: 10

3.c EOC Activation - Level III - Partial Activation(Hours: 0700 to 1900)

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED

Caveats: FOUO

7 Day Temperature Forecasts (Low/High)

Location	Wed 25-May	Thu 26-May	Fri 27-May	Sat 28-May	Sun 29-May	Mon 30-May	Tue 31-May
Helena, MT	44/65	41/53	40/53	41/52	38/57	40/62	41/69
Livingston, MT	44/58	42/54	39/51	37/52	35/52	36/54	36/64
Billings, MT	45/57	47/60	42/57	42/58	41/53	41/56	43/69
West Yellowstone, MT	34/53	35/43	27/44	28/46	28/48	32/52	30/57
Yellowstone Park, WY	32/46	28/37	22/36	25/42	25/42	28/46	27/51
Cody, WY	41/56	44/55	37/53	37/51	36/50	38/55	40/66
Sheridan, WY	48/57	45/61	36/55	38/55	38/53	40/56	40/67
Casper, WY	47/60	42/67	35/59	37/58	35/55	40/63	39/71
Laramie, WY	33/56	35/62	33/55	33/54	33/57	38/57	35/65



STATE OF SOUTH DAKOTA
DENNIS DAUGAARD, GOVERNOR

May 25, 2011

Colonel Robert J. Ruch
Omaha District, U.S. Army Corps of Engineers
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102-9000

Dear Colonel Ruch:

In advance of Missouri River flooding resultant of increased releases from U.S. Army Corps of Engineers (USACE) reservoirs, the State of South Dakota is requesting Emergency Operations Direct Assistance from the Omaha District of USACE under the Emergency Operations Program of Public Law 84-99 due to the imminent threat of unusual flooding. Specifically, I am requesting emergency protective measures in communities that may experience flooding in this area.

The State of South Dakota was notified by USACE of increased releases from Missouri River reservoirs on May 23, 2011. Releases from Oahe Dam are planned to be 75,000 cubic feet per second (cfs) in the next few days, and 85,000 cfs on Monday, May 30. Specific impacts of these elevated releases are unknown, but significant flooding is expected in residential areas of the cities of Pierre and Fort Pierre and potentially other communities downstream.

If projected flooding occurs along the Missouri River, infrastructure and residential areas will be threatened. Low lying residential areas will be completely inundated, forcing residents to evacuate their homes and find emergency sheltering elsewhere. If water levels remain high for an extended period of time, these residents will be forced to find short-term and long-term housing away from their permanent homes.

Furthermore, roadways will be impacted by flood waters. Overtopping and/or erosion of roads place communities and rural residents at risk by slowing or altogether preventing emergency services response. Residents will be isolated for extended periods of time, leaving them without access to medical services and basic needs. Flood waters are also expected to threaten other infrastructure such as lift stations, water treatment plants, sewer lagoons, and electric substations. Flooded farms, homes, businesses and septic lagoons also pose a very real environmental hazard.

The South Dakota Office of Emergency Management (SDOEM) is coordinating state-level preparedness efforts to support cities and counties that will be impacted by the flooding. Information on areas of concern, resources on hand, and resources needed is being provided to the state via the county emergency managers. State agencies are using this information to stage resources and to prepare to provide technical and other assistance. SDOEM is also coordinating response and recovery plans with non-governmental, federal, and private agencies.

Based on projected water levels at locations downstream of Oahe Dam, the State of South Dakota has identified the need for USACE assistance to prepare for spring flooding in the cities of Pierre and Fort Pierre, including

- Technical assistance to evaluate the overall flood threat;
- Direct assistance to construct temporary levees and to provide emergency flood fight supplies to threatened areas. These supplies would include but are not limited to: sandbags, sandbag filling machines, pumps, auxiliary power and auxiliary lighting.
- Qualified engineers and inspectors to install, monitor, and oversee modifications to flood preparedness measures.

South Dakota state agencies are monitoring conditions and are prepared to provide coordination, resources, and technical assistance as requested from local governments. The State Emergency Operations Center expects to be activated for flood fight operations. Over 50 key state agency personnel are assessing flood preparation needs and providing guidance and assistance as needed to identify public and private resources for flood fighting operations.

Because of the urgent and compelling flood threat, limited state and local construction resources and depleted state and local funds used to respond to a record eight major disaster declarations in the past 14 months, I am requesting USACE assistance to supplement the efforts of state and local resources in flood control efforts in the cities of Pierre and Fort Pierre and other threatened areas as needed. Time is of the essence. Protective measures must start immediately; otherwise, citizens and public infrastructure in the cities of Pierre and Fort Pierre will be at great risk.

Thank you for your immediate attention to this request for assistance. The state point of contact for this effort is Kristi Turman, Director, South Dakota Office of Emergency Management, at 605.773.3231.

Sincerely,



Dennis Daugaard

DD:nn

**State of South Dakota
Office of the Governor
Executive Order 2011-12**

WHEREAS, The state of South Dakota is going to be impacted by record level water flows on the Missouri River as a result of heavy rains and record snowfall and snowmelt in Montana; and,

WHEREAS, Businesses and homeowners may be impacted by increased water releases from the Oahe Dam, Big Bend Dam, Fort Randall Dam, and Gavins Point Dam; and,

WHEREAS, Flooding may cause widespread damage to public and private infrastructure and may interrupt the normal flow of emergency, school, mail, business and farm traffic; and,

WHEREAS, Flooding may also cause widespread basement flooding; and,

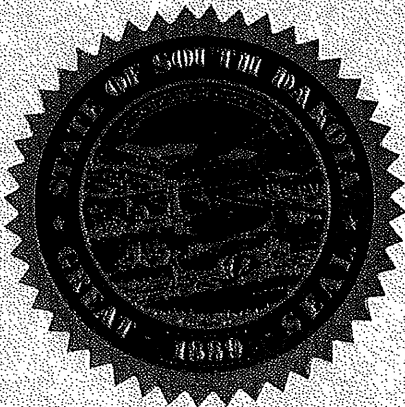
WHEREAS, Emergency shelters may need to be established to house citizens that may be displaced by the devastation of the flooding; and,

WHEREAS, Sandbagging of infrastructure may be needed to assist local governments in protecting property;

NOW, THEREFORE, I, Dennis Daugaard, Governor of the State of South Dakota, under provisions of SDCL 33-15, otherwise known as the Emergency Management law, do hereby declare a state of emergency to exist in the State of South Dakota.

IT IS FURTHER DECLARED, resources available within state government will be utilized under coordination of the Department of Public Safety, Office of Emergency Management, in support of local government efforts in the protection of lives and property in the affected counties.

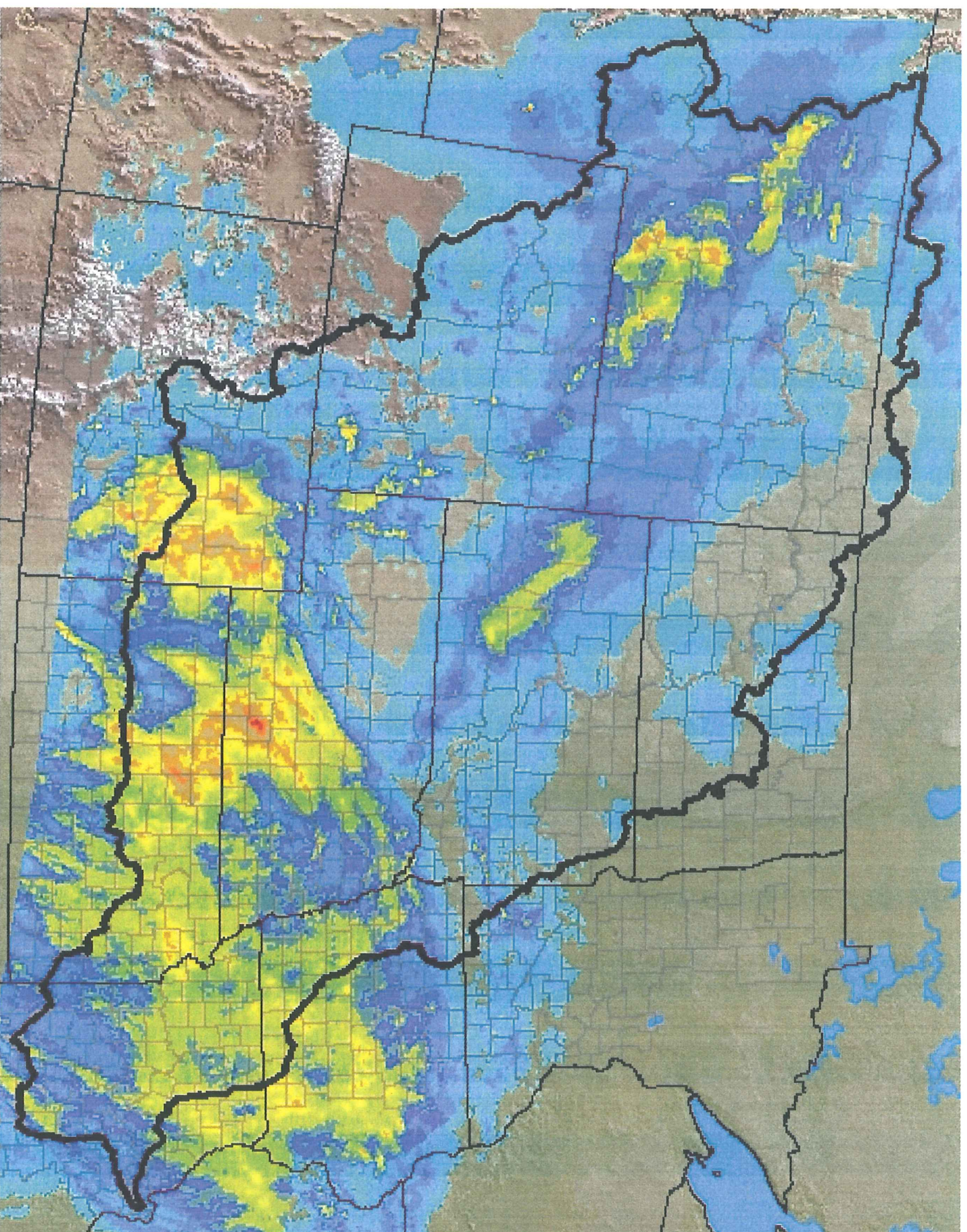
Dated in Pierre, South Dakota, this Twenty-fifth day of May, 2011.




Dennis Daugaard, Governor

Attest:


Jason M. Gant, Secretary of State



MBRFC 24-Hour Gage Biased Estimated Rainfall (inches)

Ending: 5/25/2011 at 7:00AM CDT



US Army Corps
of Engineers
Omaha District

U.S. Army Corps of Engineers, Omaha District

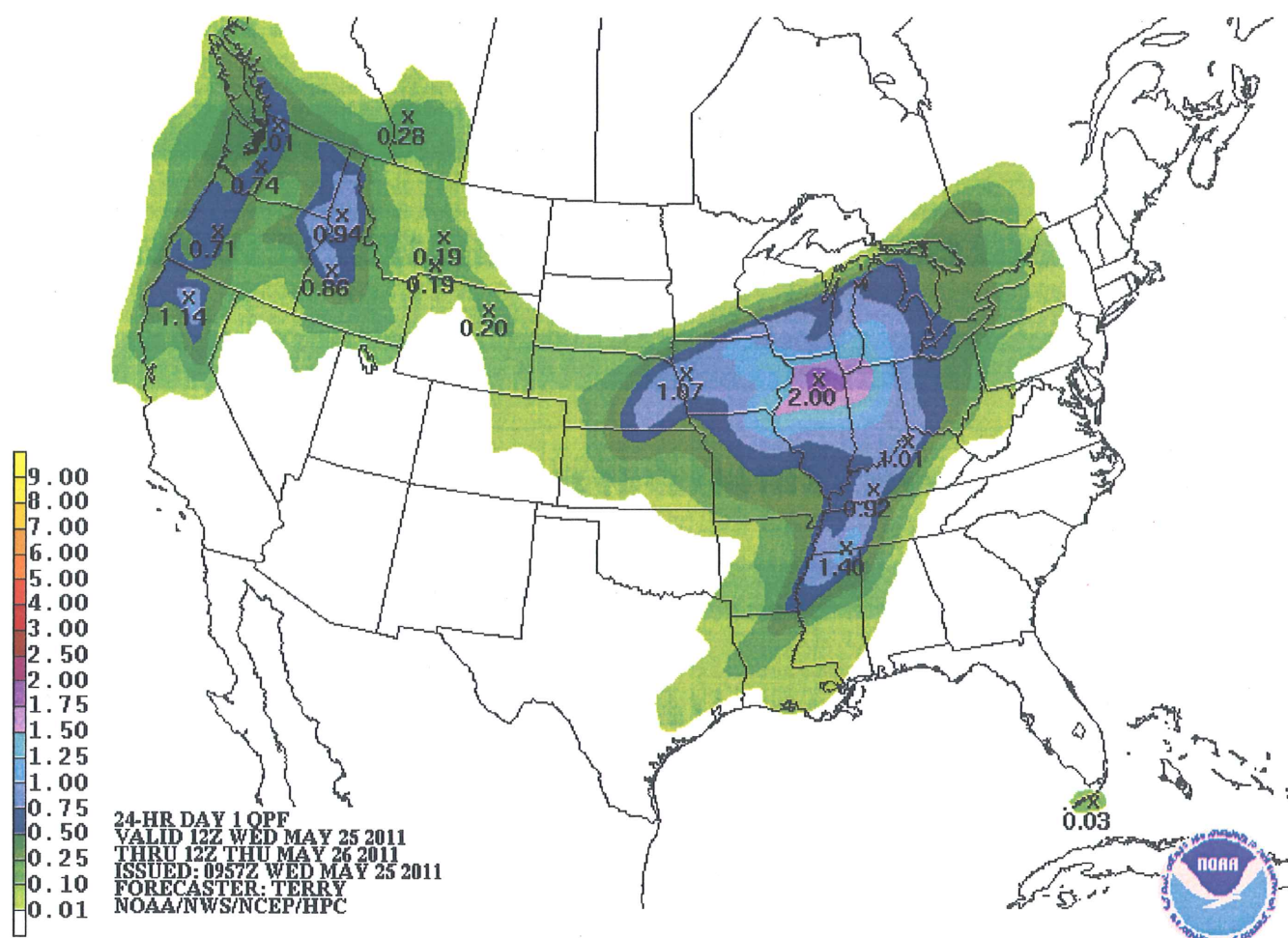
Missouri River Basin

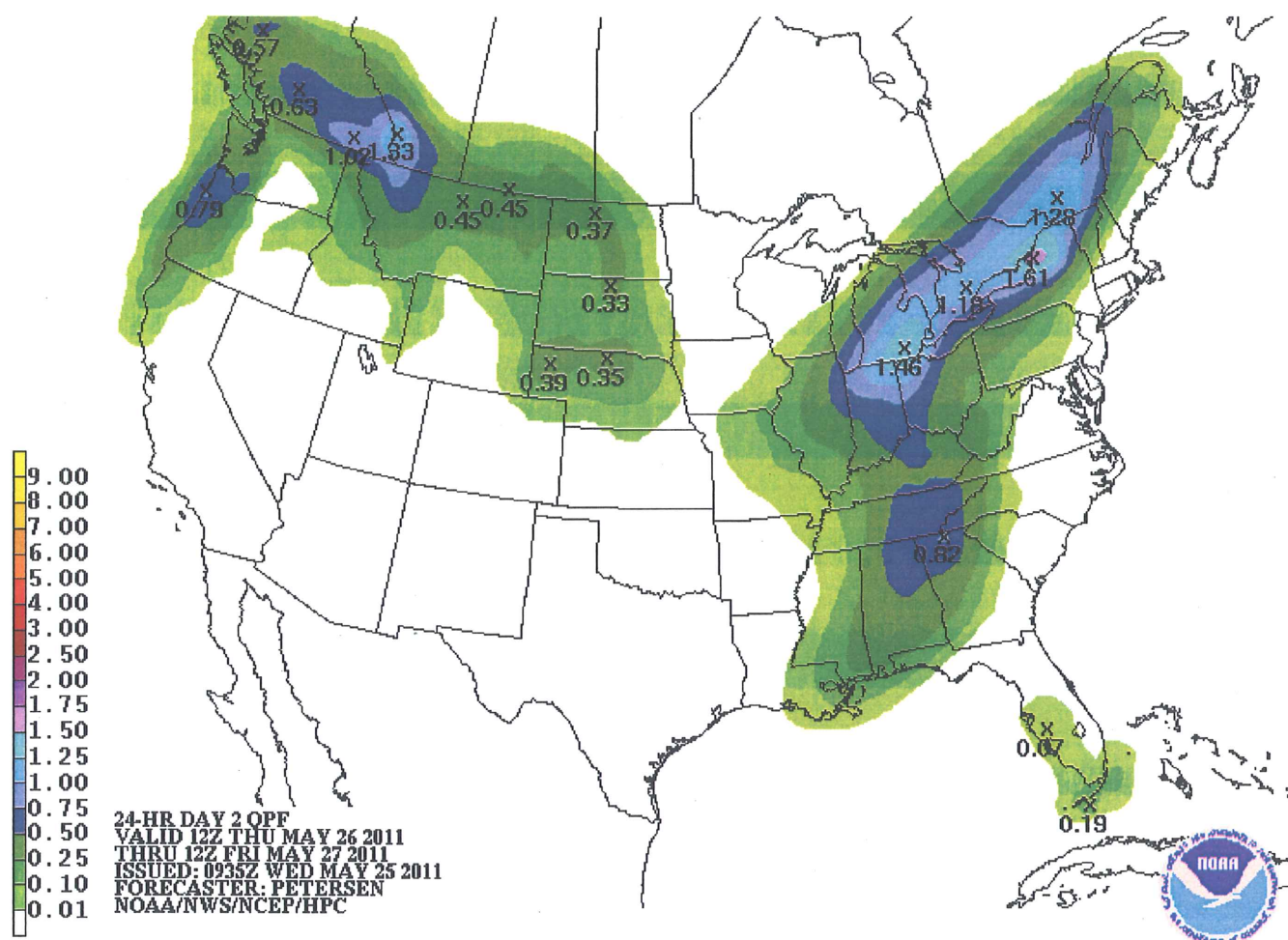
Mainstem and Tributary Reservoir Bulletin

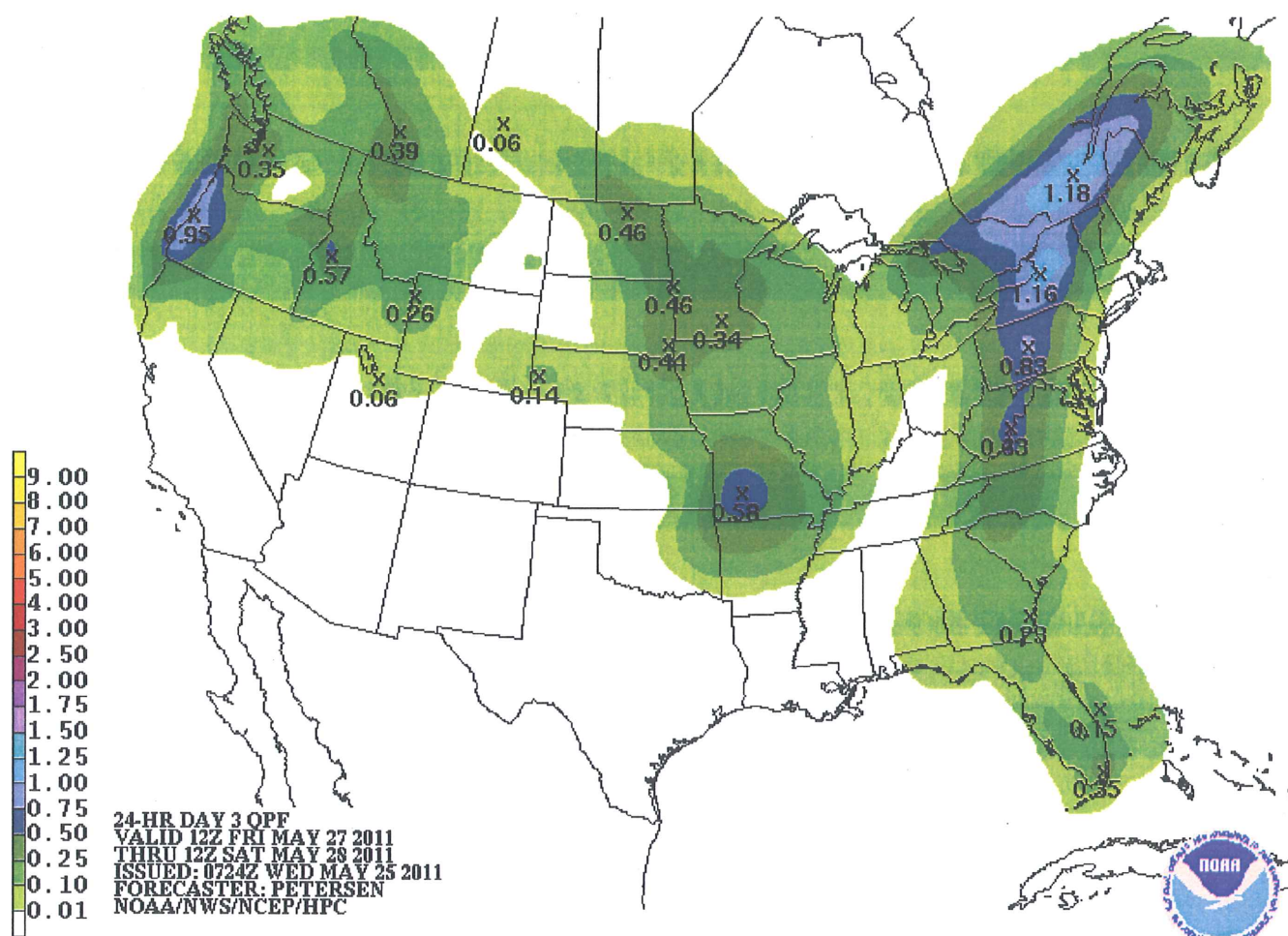
Project Data Date/Time: 05/25/11 12:00 AM

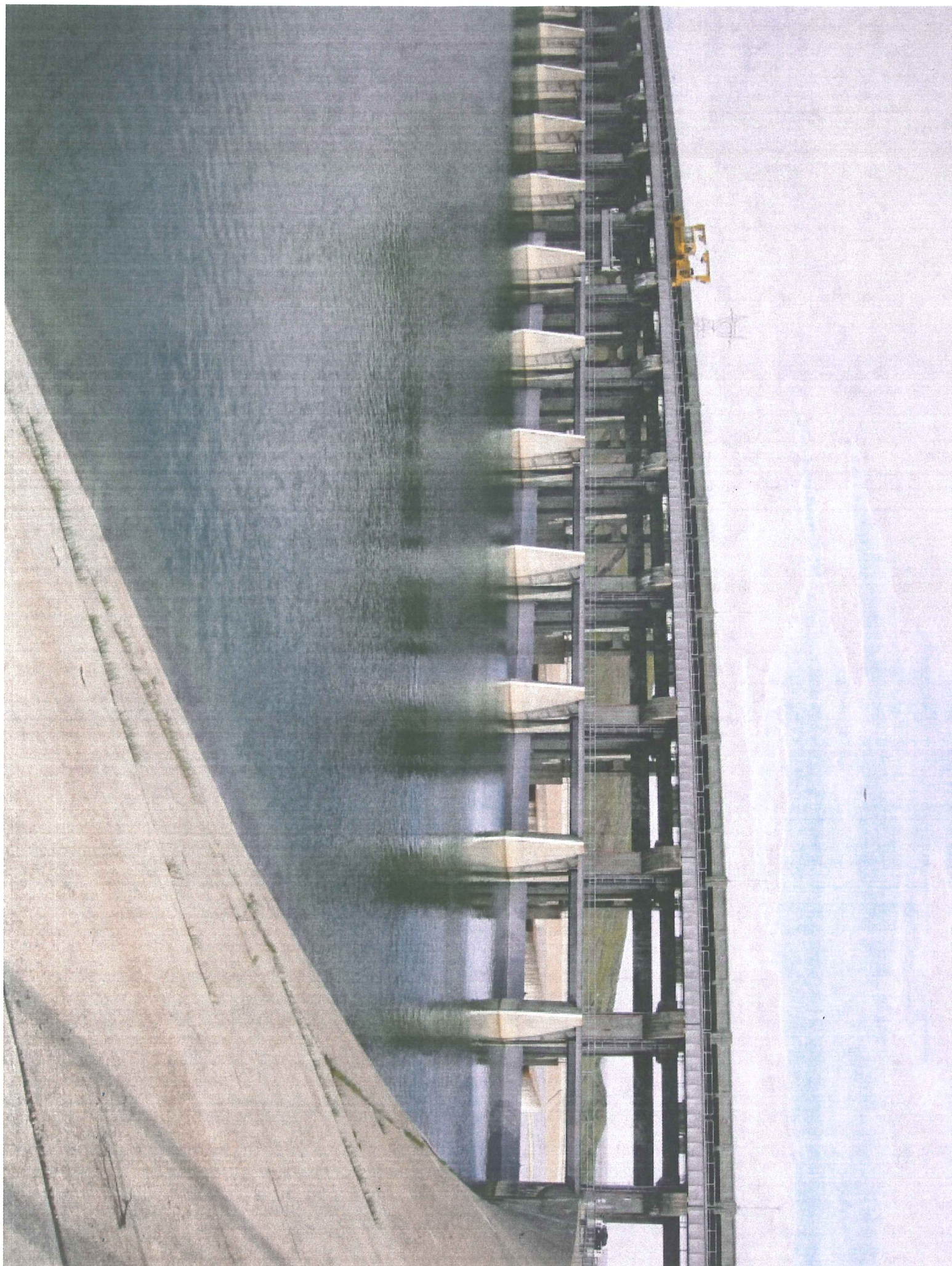
Bulletin Updated: 5/25/11 11:15 AM

Project	Project Information				Current Data					Occupied Storage		
	Elevations (ft msl)		Storage		Elevation (ft msl)	Dly Elev. Change	Storage (ac-ft)	Inflow (dsf)	Release (dsf)	MP (%)	FC (ac-ft)	FC (%)
	MP	FC	MP	FC								
MRR - Missouri River Mainstem Projects												
*Please note Mainstem and USBR data is calculated manually and will populate before 12:00 p.m.												
Fort Peck	2234.0	2250.0	14,995,684	18,687,731	2245.27	0.59	17,327,000	85,000	11,100	100.0	2,331,316	63.1
Garrison	1837.5	1854.0	18,109,625	23,820,730	1850.70	0.30	22,585,000	120,000	65,600	100.0	4,475,375	78.4
Oahe	1607.5	1620.0	18,834,035	23,136,960	1617.86	0.24	22,341,000	112,000	63,500	100.0	3,506,965	81.5
Big Bend	1420.0	1423.0	1,621,484	1,798,614	1420.01	-0.42	1,621,000	44,000	67,100	100.0	0	0.0
Fort Randall	1350.0	1375.0	3,124,368	5,418,186	1355.98	0.53	3,611,000	80,000	59,700	100.0	486,632	21.2
Gavins Point	1204.5	1210.0	320,971	469,928	1206.49	-0.15	354,000	58,000	60,100	100.0	33,029	22.2
System Totals							67,839,000					
NWO - USBR Section 7 Projects												
Tiber	2993.0	3012.5	925,649	1,328,723	2986.40	0.44	812,855	4,430	997	87.8	0	0.0
Clark Canyon	5546.1	5560.4	174,367	253,442	5544.86	0.03	167,955	526	450	96.3	0	0.0
Canyon Ferry	3797.0	3800.0	1,891,888	1,992,977	3778.33	0.05	1,312,395	14,837	14,279	69.4	0	0.0
Boysen	4725.0	4732.2	741,594	892,226	4709.19	-0.28	481,412	1,787	3,846	64.9	0	0.0
Buffalo Bill	5393.5	5393.5	646,565	646,565	5347.03	0.60	319,947	6,004	4,214	49.5	-	-
Yellowtail	3640.0	3657.0	1,070,000	1,328,000	3619.30	2.9	824,116	14,648	4,398	77.0	0	0.0
Jamestown	1429.8	1454.0	31,510	221,000	1448.76	-0.27	156,847	123	1,597	100.0	125,337	66.1
Heart Butte	2064.4	2094.5	67,000	214,000	2069.16	0.83	83,420	3,816	2,282	100.0	16,420	11.2
Keyhole	4099.3	4111.5	194,000	334,000	4095.80	0.24	157,718	992	0	81.3	0	0.0
Pactola	4580.2	4621.5	56,000	99,000	4582.43	0.73	57,892	592	270	100.0	1,892	4.4
Shadehill	2271.9	2302.0	120,000	350,000	2274.32	0.42	132,186	2,780	1,647	100.0	12,186	5.3
Glendo	4635.0	4653.0	518,000	790,000	4630.62	0.32	465,828	7,711	5,878	89.9	0	0.0
NWO - USACE Tributary Projects												
Bowman-Haley	2754.8	2777.0	18,765	91,482	2757.59	-0.38	24,086	558	748	100.0	5,321	7.3
Pipestem	1442.5	1496.3	8,944	142,107	1486.82	0.02	103,090	277	205	100.0	94,146	70.7
Chatfield	5432.0	5500.0	27,428	234,207	5432.08	0.07	27,531	79	50	100.0	103	0.0
Cherry Creek	5550.0	5598.0	12,805	133,134	5550.16	0.04	12,934	33	41	100.0	129	0.1
Bear Creek	5558.0	5635.5	1,882	30,586	5558.54	0.04	1,939	39	36	100.0	57	0.2
Papio #11	1121.0	1142.0	3,054	16,907	1121.54	0.07	3,266	22	8	100.0	212	1.5
Papio #16	1104.0	1121.0	1,211	4,782	1104.76	0.15	1,308	18	8	100.0	97	2.7
Papio #18	1110.0	1128.2	2,916	10,512	1092.20	-0.32	262	-8	2	9.0	0	0.0
Papio #20	1095.8	1113.1	2,536	8,611	1096.36	0.06	2,647	3	7	100.0	111	1.8
Cottonwood	3875.0	3936.0	655	8,385	3856.51	-0.01	0	0	0	0.0	0	0.0
Cold Brook	3585.0	3651.4	520	7,200	3582.56	0.02	434	0	0	83.4	0	0.0
Lake Audubon	1847.0	1847.0	323,690	323,690	1846.81	0	INFLOW AND OUTFLOW NOT CALCULATED					
Lake Pocasse	1617.0	1617.0	11,000	11,000	POOL ELEVATION READ MONTHLY BY PROJECT OFFICE							
Salt Creek #02	1335.0	1350.0	1,100	4,957	1333.93	0.07	934	5	0	84.9	0	0.0
Salt Creek #04	1307.4	1322.5	2,531	9,660	1307.28	0.09	2,493	14	0	98.5	0	0.0
Salt Creek #08	1287.8	1302.0	1,780	8,375	1289.01	-0.01	2,120	36	37	100.0	340	5.2
Salt Creek #09	1271.1	1285.0	1,451	5,864	1271.52	0.03	1,533	7	5	100.0	82	1.9
Salt Creek #10	1244.9	1262.0	1,629	7,468	1245.79	0.02	1,822	14	12	100.0	193	3.3
Salt Creek #12	1232.9	1252.0	1,808	9,415	1233.91	-0.02	2,030	24	26	100.0	222	2.9
Salt Creek #13	1341.0	1355.0	2,161	7,182	1341.85	0.13	2,367	39	23	100.0	206	4.1
Salt Creek #14	1244.3	1263.5	7,500	27,597	1245.20	0.04	8,163	63	48	100.0	663	3.3
Salt Creek #17	1242.4	1266.0	783	6,628	1242.96	0.12	877	13	6	100.0	94	1.6
Salt Creek #18	1284.0	1311.0	25,088	96,759	1285.29	-0.05	27,522	85	134	100.0	2,434	3.4

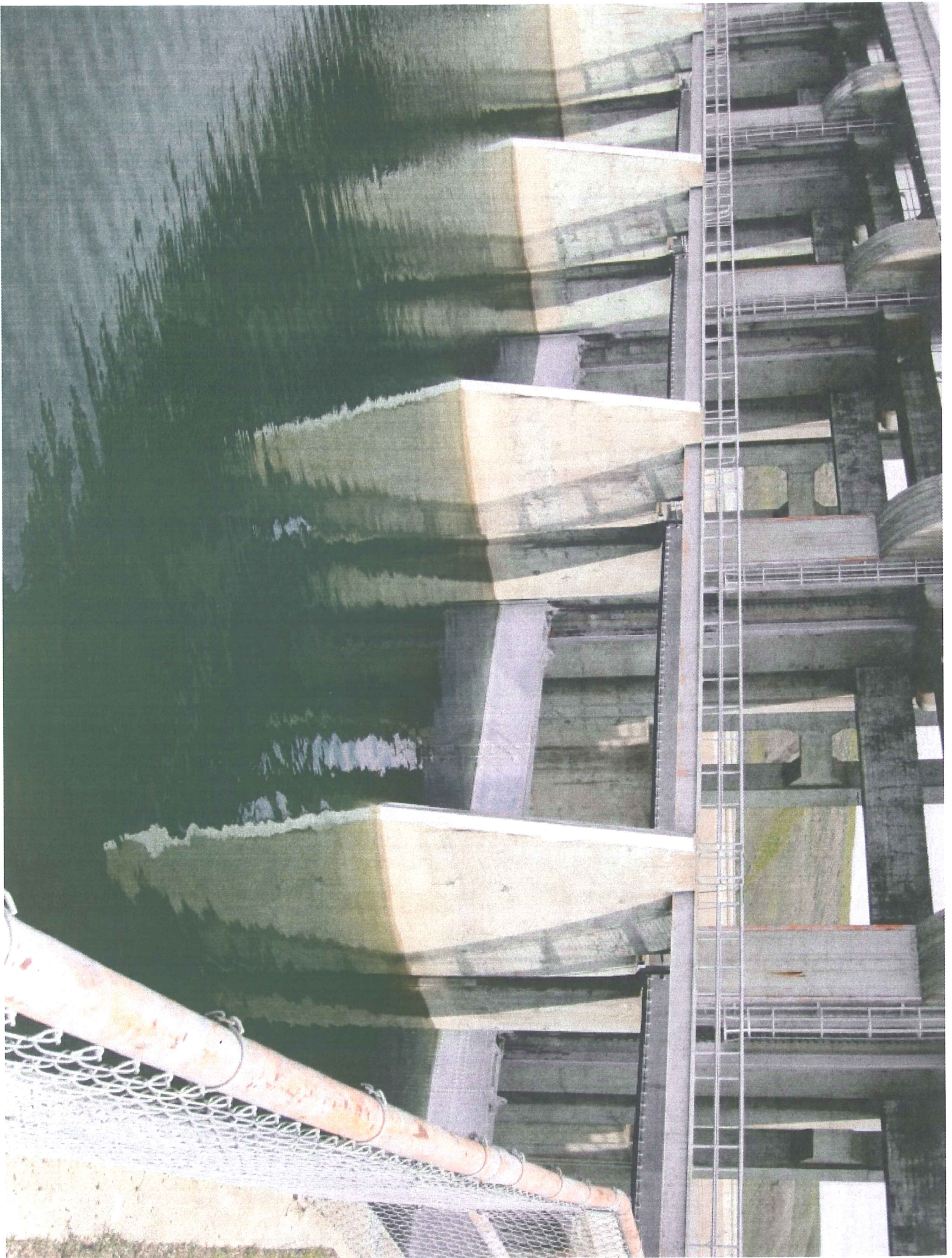










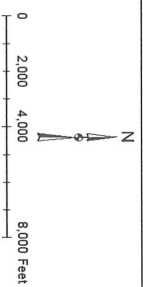




Legend

- 1980 River Miles
- Inundation @ 85,000 cfs

Bismarck / Mandan, ND
MAY 25, 2011
Inundation based on a release of 85,000 cfs
Outlet: Partial Area of Inundation, which is subject to change
Provisional





Legend

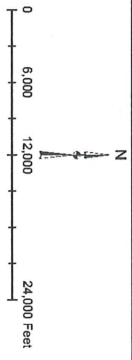
- 1960 River Miles
- Inundation @ 85,000 cfs

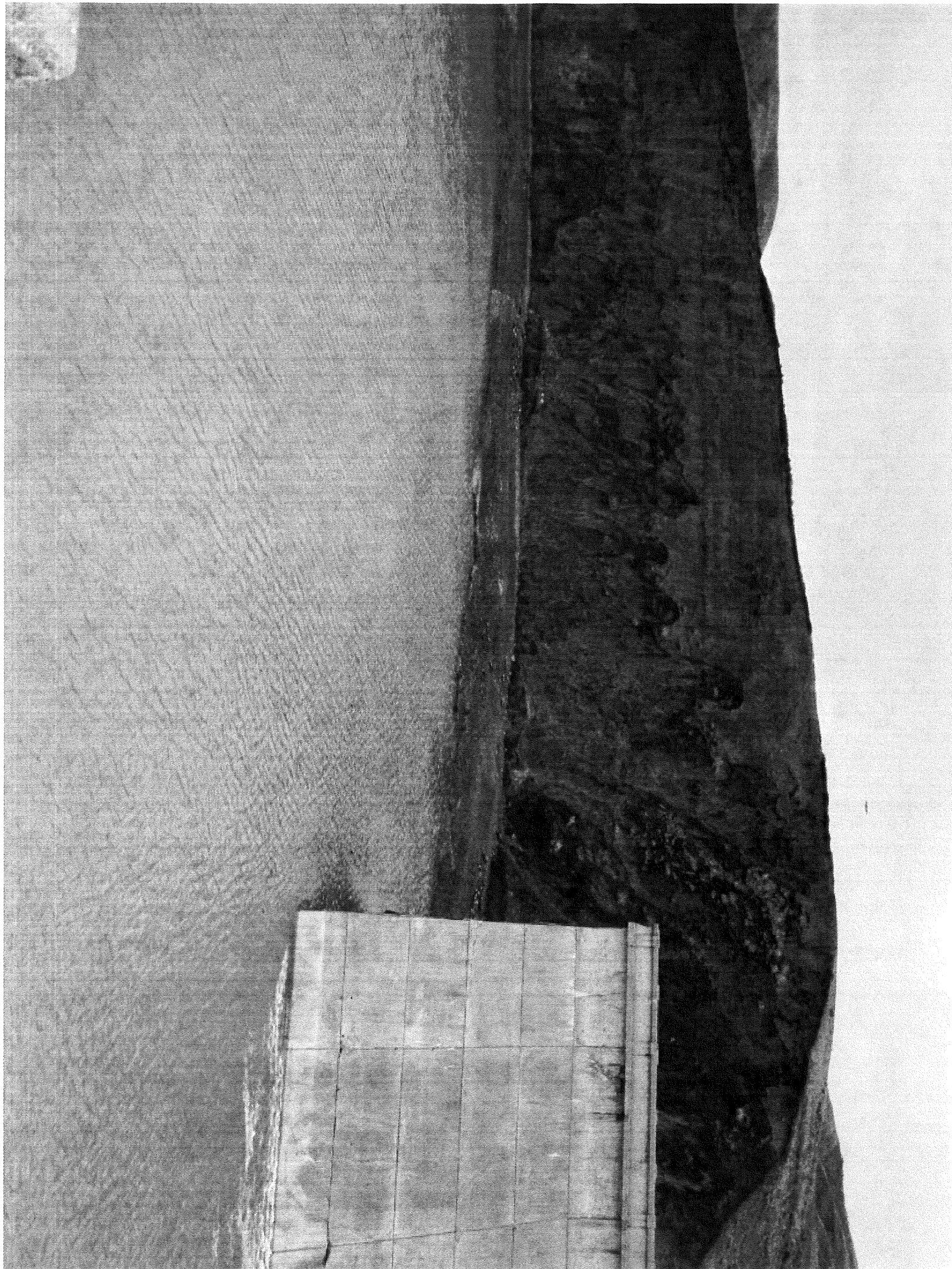
Pierre / Fort Pierre, SD MAY 23, 2011

Inundation Based on a release of 85,000 cfs

Disclaimer: Potential Area of Inundation, which is subject to change.

Prepared by:





[REDACTED] NWO

From: Schenk, Kathryn M NWO
Sent: Wednesday, May 25, 2011 9:49 PM
To: [REDACTED] NWO
Cc: [REDACTED] NWO; Farhat, Jody S NWD02; Schenk, Kathryn M NWO

[REDACTED]
Col Ruch is calling ND and SD 24 hour contacts tonight. He may or may not reach them this late. There will be a congressional call at 8 in the morning which you should listen on to assist you at 9. A meeting invite will go to all OPMs. There will be a press release that will be ready to go after the call. There will be a media call in at 11.

Jody is going to forward to you her talking points and a draft of the release schedule so you can review beforehand. Final is still being worked but GA numbers will not change.

Tried to call but got your voice mail. Please call if you have questions. Katie.

Message sent via my BlackBerry Wireless Device

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 9:46 PM
To: [REDACTED] NWD02; [REDACTED] NWD02; Farhat, Jody S NWD02
Cc: Schenk, Kathryn M NWO
Subject: National Weather Service Call (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: FOUO

All,
I'm in the State EOC and they received a call from the NWS office here in Bismarck, they asked the State if a rumor they'd heard about USACE increasing releases even higher and on a more aggressive schedule was true? The state handed the phone to me. I re-iterated the current forecast of 80,000 cfs from Garrison Friday and 85,000 cfs on Monday. He conveyed his concern that the State EOC be notified if there was any truth to what he'd heard and asked if I could verify whether this was only a rumor with Omaha. He requested a return call. It was Jeff Zavocol (SP?) at 701-202-6381. Please advise regarding a response.

[REDACTED]
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED

Caveats: FOUO

NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 9:19 PM
To: McMahon, John R BG NWD
Cc: Anderson, G Witt NWD; [REDACTED] NWD; Anderson, G Witt NWD; [REDACTED] HQ@NWD; [REDACTED] ULA; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; Blechinger, Erik T NWO; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED] HQ; [REDACTED] NWD; [REDACTED] HQ02; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] ULA@NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] ACE-IT@NWD; [REDACTED] NWD; Tipton, Robert A Col NWD; [REDACTED] NWD; CENWD-EOC NWD; Ruch, Robert J COL NWO; [REDACTED] NWO; [REDACTED] NWD; Cenwk-EOC NWK; CENWO-EOC NWO; CENWP-EOC NWP; CENWS-EOC NWS; CENWW-EOC NWW
Subject: CCIR - FEMA R8 Activating (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

Just got a call from R8 a few minutes ago and left you a voicemail. They're activating a JFO as a result of potential flooding in Pierre, SD. We have a verbal MA. I've contacted HQs and they will identify an ESF #3 cadre to send and we need to send an LNO from NWO w/ PL84-99 experience. Expected arrival time is NLT FRI.

VR
John

[REDACTED]
Chief, Readiness and Contingency Operations Northwestern Division
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Tipton, Robert A Col NWD
Sent: Wednesday, May 25, 2011 8:37 PM
To: [REDACTED] NWD; [REDACTED] NWD
Cc: Farhat, Jody S NWD02; [REDACTED] NWD; Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] HQ; McMahon, John R BG NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK
Subject: RE: District CMT vs. NWD Executive CMT Call
Attachments: NWD Flood-tornado rhythm.pptx

Pam,

We have de-conflicted our calls with the Districts. NWO actually has their CMT Brief at 1100 PST (1300 CST) and so we need to do the NWD Executive CMT at 0900 PST (1100 CST).

The chart that the RCO sent earlier reflects this (I have reattached it). Therefore need you to adjust the time tomorrow for 0900 PST (1100 CST) for the executive call.

This will work better for the CG anyway as he is traveling by vehicle to Joplin during that time and assuming he has cell phone connection he can participate.

RT

Robert A. Tipton, P.E.
COL, EN
Deputy Commander
Northwestern Division
U.S. Army Corps of Engineers

503-808-3701

-----Original Message-----

From: Ruch, Robert J COL NWO
Sent: Wednesday, May 25, 2011 6:26 PM
To: Tipton, Robert A Col NWD
Subject: Re: District CMT vs. NWD Executive CMT Call

Correct

V/R,
COL Bob Ruch
Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: Tipton, Robert A Col NWD
To: Ruch, Robert J COL NWO
Cc: Jordano, James J LTC NWO; [REDACTED] D NWD; [REDACTED] NWD
Sent: Wed May 25 18:16:42 2011
Subject: District CMT vs. NWD Executive CMT Call

Bob,

Think we may have gotten cross wise with your schedule, so just want to verify when you are executing your District CMTs.

I think we were tracking that you were doing them at 1100 CST...so we were looking at the NWD Call at 1300 CST. But I now believe we got word that you are doing your District CMT at 1300 CST...

If true, then we will need to adjust and do the Division Call at 1100 CST.

Bob

Robert A. Tipton, P.E.
COL, EN
Deputy Commander
Northwestern Division
U.S. Army Corps of Engineers

503-808-3701

NWD Spring Flood / Tornado Response Regional Battle Rhythm

Time (PST)	Event	Lead	Notes	Information
0600 (M,W,F)	HQUSACE Conference Call	HQUSACE	Update to HQUSACE	[REDACTED]
0630 (Daily)	FEMA/NWD Morning Report	[REDACTED]		
0700 (Daily)	Omaha Hydro/Weather Briefing	[REDACTED]		
0900 (Daily)	Missouri River Basin Executive Call	BG McMahon	CG discussion with District	[REDACTED]
1100 (Daily)	Omaha CMT Brief	[REDACTED]		[REDACTED]
1200 (M,W,F)	HQUSACE Conference Call	HQUSACE	Update to HQUSACE	[REDACTED]
1300 (TBD)	Tornado Response (NWD, NWK, ESF3)	[REDACTED]	Coord between (NWD, NWK, ESF3)	[REDACTED]
1300 (Tues)	Regional Water Operations Call	[REDACTED]	Regional discussion with BoR, BPA	[REDACTED]
1300 (Thurs)	Columbia River Basin WM Regional Call	[REDACTED]	Regional discussion with WM COP	[REDACTED]
1400 (Daily)	NWS CMT Briefing	[REDACTED]	Update to NWS Commander	[REDACTED]
1530 (Tues/Thurs)	Columbia River Basin Executive Call	BG McMahon	CG Discussion with District	[REDACTED]
1600 (Daily)	Write/Release NWD SITREP to HQ	[REDACTED]	SITREP on Joplin MO& Flooding	
1645 (Daily)	Suspense to release all ENGLink Taskers	[REDACTED]		
1700 (Daily)	Release all District SITREPS	[REDACTED]		

As of: 25 MAY 11

NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 7:38 PM
To: Caldwell, David A LTC NWW; Hofmann, Anthony J COL NWK; Miles, Steven R COL NWP; Ruch, Robert J COL NWO; Tipton, Robert A Col NWD; Wright, Anthony COL NWS; McMahon, John R BG NWD
Cc: [REDACTED] NWD; [REDACTED] NWD; [REDACTED] ULA@NWD; [REDACTED] ACE-IT@NWD; [REDACTED] NWD; [REDACTED] NWD; Blechinger, Erik T NWO; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; HQ@NWD; Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; Acheson, William E LTC NWS; [REDACTED] NWP; [REDACTED] J NWK; [REDACTED] NWW; Jordano, James J LTC NWO; [REDACTED] NWW; [REDACTED] NWK; [REDACTED] NWP; [REDACTED] NWO; [REDACTED] NWS; Cenwk-EOC NWK; CENWO-EOC NWO; CENWP-EOC NWP; CENWS-EOC NWS; CENWW-EOC NWW; [REDACTED] ULA; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWP; [REDACTED] NWD; [REDACTED] NWD; McNeil, Rye A SSG CONTRACTOR @ NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWS; [REDACTED] NWK; [REDACTED] NWP; Schenk, Kathryn M NWO; [REDACTED] NWW; [REDACTED] NWK; [REDACTED] NWS; Johnston, Paul T NWO; [REDACTED] NWP; [REDACTED] NWW; [REDACTED] NWD; [REDACTED] NWO; [REDACTED] NWW; [REDACTED] NWS; [REDACTED] NWP; [REDACTED] NWK; O'Hara, Thomas A NWO; [REDACTED] NWK; [REDACTED] A NWS; [REDACTED] NWW
Subject: NWD Flood-tornado rhythm.pptx (UNCLASSIFIED)
Attachments: NWD Flood-tornado rhythm.pptx

Classification: UNCLASSIFIED

Caveats: NONE

Gentlemen,

Per discussion this afternoon during the Columbia Basin update, here's what the RCO is currently tracking for both Flood and Tornado updates across the Region. This includes Columbia River Water Management's weekly meetings on Tues and Thursday. If times or days change, please have your POCs contact MAJ Ray Love for updates.

VR

John

Classification: UNCLASSIFIED

Caveats: NONE

NWD Spring Flood / Tornado Response Regional Battle Rhythm

Time (PST)	Event	Lead	Notes	Information
0600 (M,W,F)	HQUSACE Conference Call	HQUSACE	Update to HQUSACE	(b)(6)
0630 (Daily)	FEMA/NWD Morning Report	(b)(6)		
0700 (Daily)	Omaha Hydro/Weather Briefing	(b)(6)		
0900 (Daily)	Missouri River Basin Executive Call	BG McMahon	CG discussion with District	(b)(6)
1100 (Daily)	Omaha CMT Brief	(b)(6)		
1200 (M,W,F)	HQUSACE Conference Call	HQUSACE	Update to HQUSACE	(b)(6)
1300 (TBD)	Tornado Response (NWD, NWK, ESF3)	(b)(6)	Coord between (NWD, NWK, ESF3)	
1300 (Tues)	Regional Water Operations Call	(b)(6)	Regional discussion with BoR, BPA	(b)(6)
1300 (Thurs)	Columbia River Basin WM Regional Call	(b)(6)	Regional discussion with WM COP	(b)(6)
1400 (Daily)	NWS CMT Briefing	(b)(6)	Update to NWS Commander	(b)(6)
1530 (Tues/Thurs)	Columbia River Basin Executive Call	BG McMahon	CG Discussion with District	(b)(6)
1600 (Daily)	Write/Release NWD SITREP to HQ	(b)(6)	SITREP on Joplin MO& Flooding	
1645 (Daily)	Suspense to release all ENGLink Taskers	(b)(6)		
1700 (Daily)	Release all District SITREPS	(b)(6)		

As of: 25 MAY 11

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 6:37 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWO
Subject: Daily SD and ND Meetings Info (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

[REDACTED] would like us to include the daily SD and ND meetings you are having to the Battle Rhythm. Please provide the daily information.

Thanks
[REDACTED]

[REDACTED]
Natural Disaster Program Manager, Readiness Branch U.S. Army Corps of Engineers, Omaha District
1616 Capitol Ave, Ste 9000 (Attn: CENWO-OD-E) Omaha, NE 68102-9000
Phone: ([REDACTED])
Cell: ([REDACTED])
Fax: ([REDACTED])
[\[REDACTED\]@usace.army.mil](mailto:[REDACTED]@usace.army.mil)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 6:14 PM
To: [REDACTED] NWO; Farhat, Jody S NWD02
Cc: [REDACTED] NWD; Anderson, G Witt NWD
Subject: CBS 24-hour News

Paul/Jody

Duane Tomlinson and his crew at CBS News, New York, are interested in the latest update on the MR Basin. As you suggested, I told him we'd be sharing info in the morning. He's 24-hour, so standing by.

888-227-8910

dto@cbsnews.com

Clare

NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 6:17 PM
To: [REDACTED] NWD02
Cc: Farhat, Jody S NWD02
Subject: RE: 03_MISSOURI_RIVER_WATER_MGMT_SLIDES_25 MAY_2011.pptx (UNCLASSIFIED)

Rose,
Thank you! I hate to bother you all with this requirement right now, as well! Hope things let up for all of you soon.

[REDACTED]
[REDACTED] Stanc
Business Operations Specialist
Regional Business Management
USACE Northwestern Division (NWD)
1125 NW Couch St. - Suite 500 - Portland, OR 97209 503-808-4050 -
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWD02
Sent: Wednesday, May 25, 2011 4:06 PM
To: [REDACTED] NWD
Cc: Farhat, Jody S NWD02
Subject: FW: 03_MISSOURI_RIVER_WATER_MGMT_SLIDES_25 MAY_2011.pptx (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Tracey: Jody did not have time to review. I hate to even bother her with it. If it needs any further changes I will send again tomorrow.

Rose

-----Original Message-----

From: [REDACTED] NWD02
Sent: Wednesday, May 25, 2011 3:11 PM
To: Farhat, Jody S NWD02
Subject: 03_MISSOURI_RIVER_WATER_MGMT_SLIDES_25 MAY_2011.pptx (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody : Just glance at slide to make sure it is ok

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 5:41 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWD02
Subject: Please call me ASAP

Importance: High

CBS News New York calling for Missouri "River Basin update - I missed the call today.

503-629-9226

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 5:18 PM
To: Farhat, Jody S NWD02; [REDACTED], Michael A NWD02; [REDACTED], Kevin R NWD02
Subject: Lake Audubon

I have fielded several questions about whether we are utilizing available storage in Lake Audubon? Have we looked at requesting the BOR to look at this as well as the McClusky canal system?

Message sent via my BlackBerry Wireless Device

NWO

From: Schenk, Kathryn M NWO
Sent: Wednesday, May 25, 2011 5:09 PM
To: Farhat, Jody S NWD02
Subject: FW: D-wall FR (UNCLASSIFIED)
Attachments: Picture 004.jpg; Picture 003.jpg; Picture 002.jpg; Picture 001.jpg; Picture 005.jpg

More photos

-----Original Message-----

From: Bertino, John J Jr NWO
Sent: Wednesday, May 25, 2011 4:17 PM
To: Ruch, Robert J COL NWO
Cc: Schenk, Kathryn M NWO; Streckfuss, Ted H NWO
Subject: FW: D-wall FR (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

Just got this. I will come see you about this.

Bertino

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 4:02 PM
To: Bertino, John J Jr NWO
Subject: FW: D-wall FR (UNCLASSIFIED)

[REDACTED]
[REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 3:28 PM
To: [REDACTED] NWO
Subject: FW: D-wall FR (UNCLASSIFIED)

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 3:23 PM
To: [REDACTED] NWO
Subject: FW: D-wall FR (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 3:19 PM
To: [REDACTED] NWO; [REDACTED] NWO
Subject: D-wall FR (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

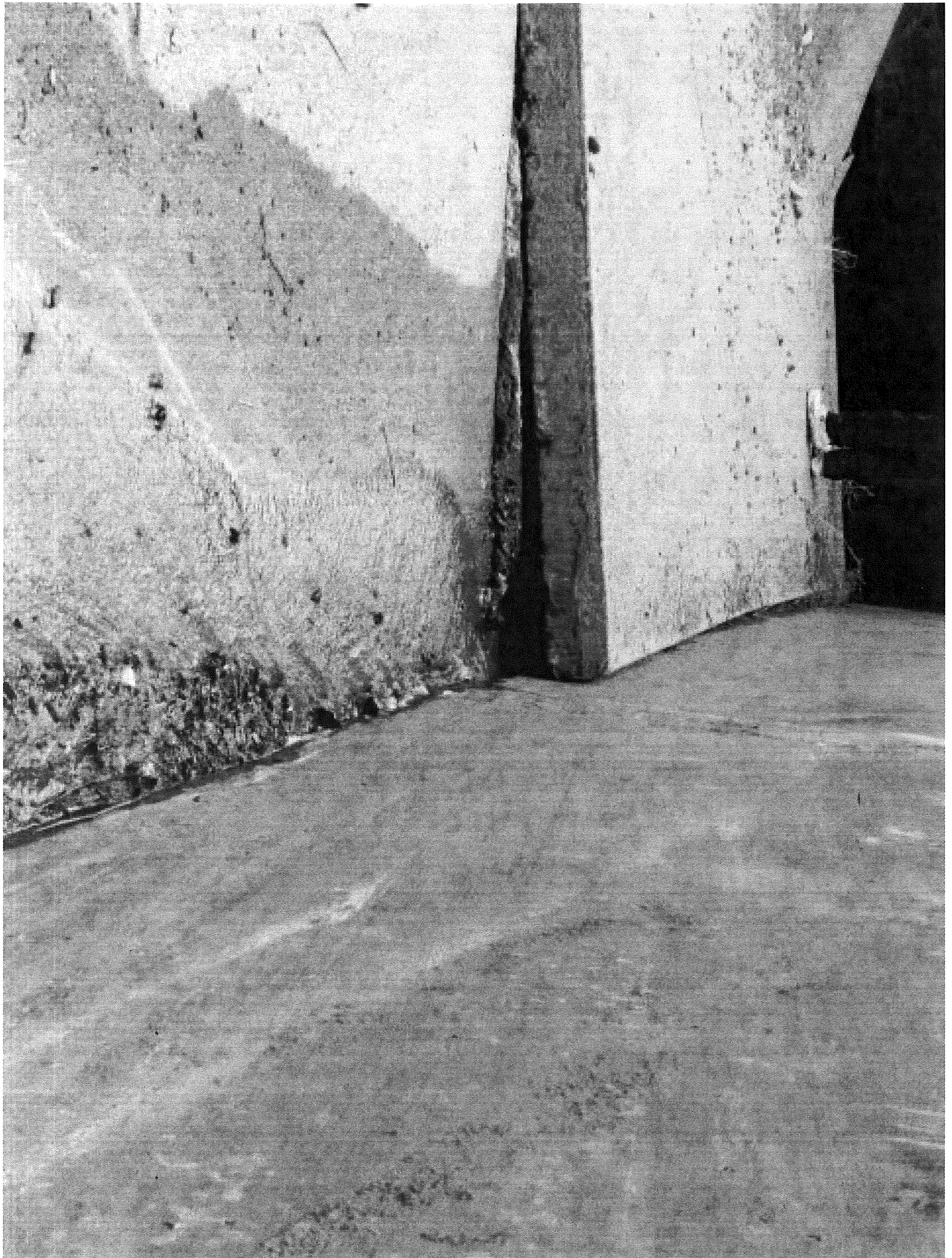
Classification: UNCLASSIFIED
Caveats: NONE











NWO

From: Schenk, Kathryn M NWO
Sent: Wednesday, May 25, 2011 5:08 PM
To: Farhat, Jody S NWD02
Subject: FW: D wall FR #2 (UNCLASSIFIED)
Attachments: Picture 010.jpg; Picture 009.jpg; Picture 008.jpg; Picture 007.jpg; Picture 006.jpg

Jody,

Please give me a call when you can. Katie.

-----Original Message-----

From: Bertino, John J Jr NWO
Sent: Wednesday, May 25, 2011 4:18 PM
To: Ruch, Robert J COL NWO
Cc: Schenk, Kathryn M NWO; [REDACTED] NWO
Subject: FW: D wall FR #2 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This one also.

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 4:03 PM
To: Bertino, John J Jr NWO
Subject: FW: D wall FR #2 (UNCLASSIFIED)

[REDACTED]
[REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 3:28 PM
To: [REDACTED] NWO
Subject: FW: D wall FR #2 (UNCLASSIFIED)

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 3:23 PM
To: [REDACTED] NWO
Subject: FW: D wall FR #2 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----

From: [REDACTED], NWO
Sent: Wednesday, May 25, 2011 3:20 PM
To: [REDACTED] NWO; [REDACTED] NWO
Subject: D wall FR #2 (UNCLASSIFIED)

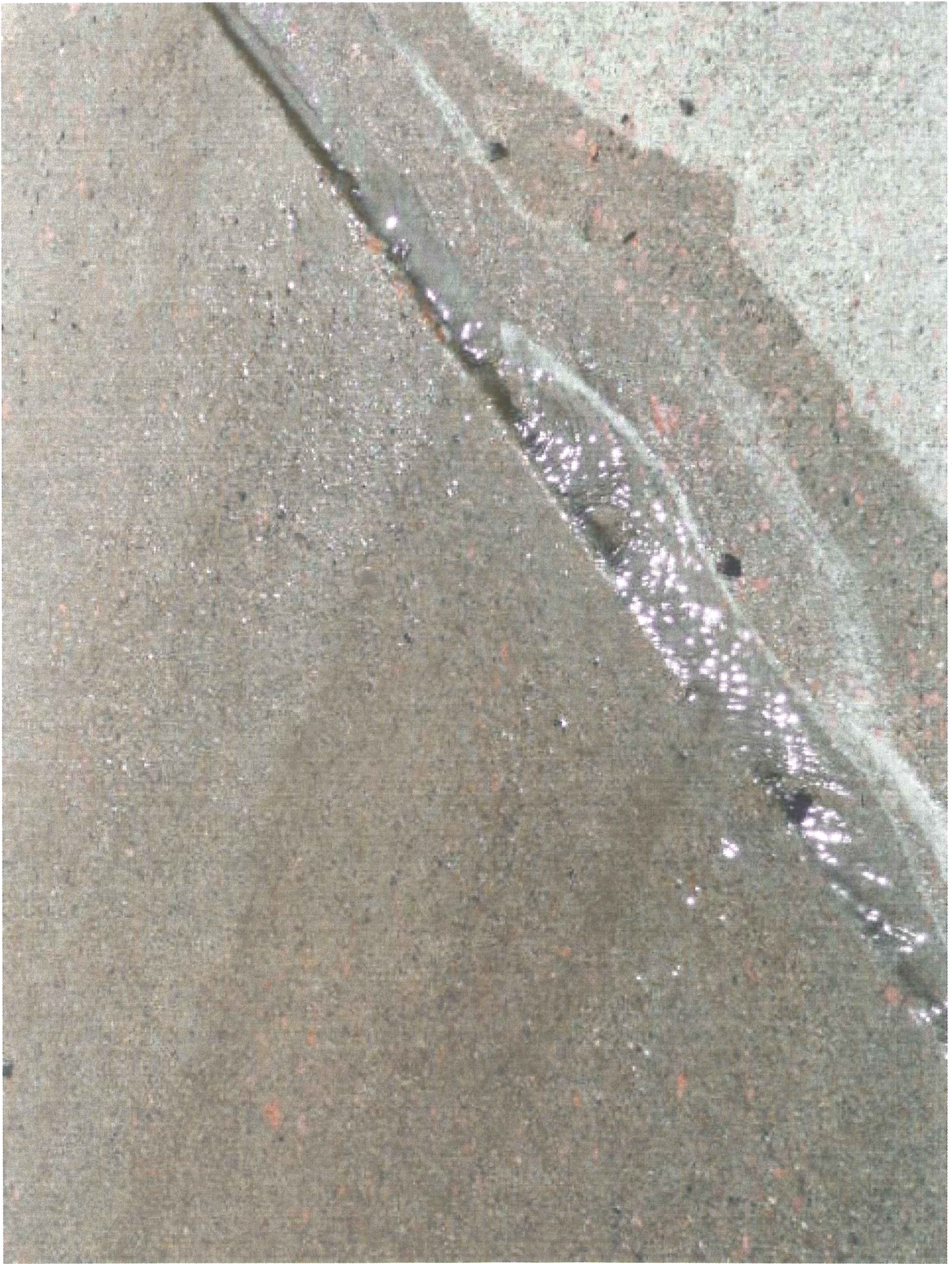
Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

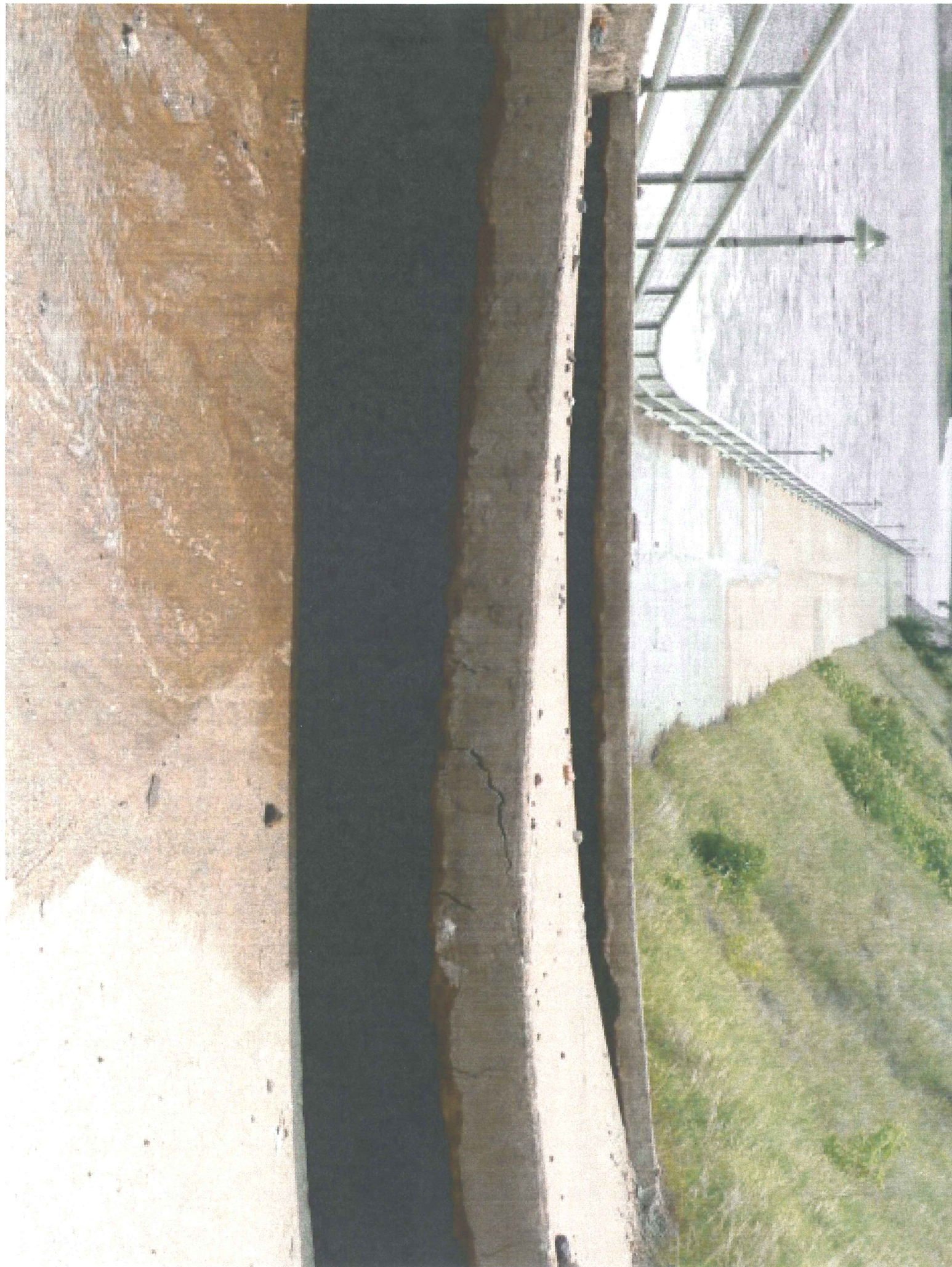
Classification: UNCLASSIFIED
Caveats: NONE

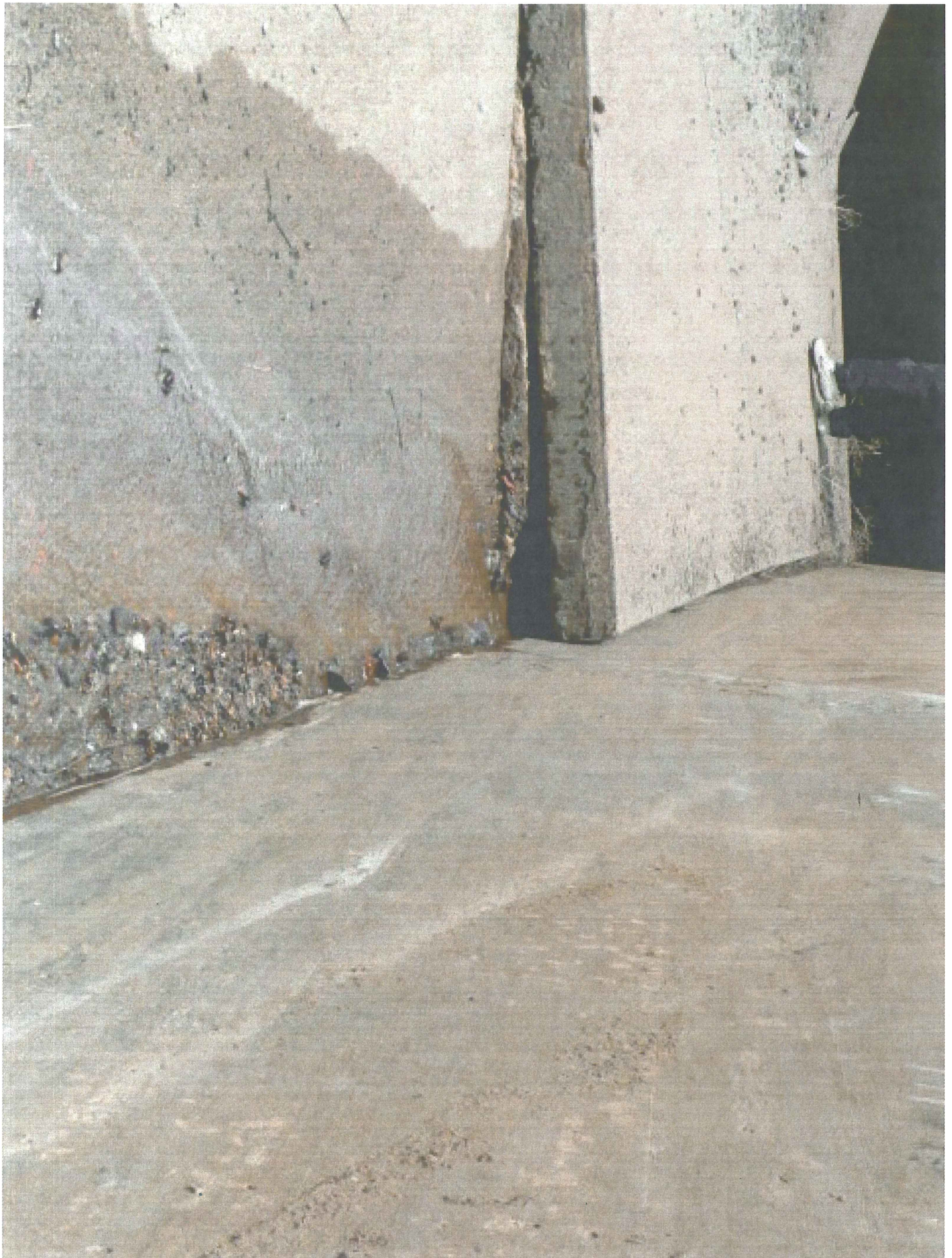
Classification: UNCLASSIFIED
Caveats: NONE











From: News Editor [editor@richmond-dailynews.com]
Sent: Wednesday, May 25, 2011 4:46 PM
To: Bill Jackson
Cc: Tom & Karla Waters; Roe Melissa (Congressman Graves); Stundebek John & Carol; Colvin Eric (Howard Levee District #3); Famuliner George; Hawkins Garrett (MO Farm Bureau); Vandiver Perry; Shirley Steve; geibpallets@yahoo.com; Stundebek Matt; Frazier Jenny (Missouri AGO); Heil Nelson; Marshall Gary (MO Corn Growers); Spickert Donna (Congresswoman Hartzler); Kay Morris; Comodeca Mike; Padgett Darrel; Endsley Art & Christie; Oberdiek Gary; Wiedemeier Dan; Kerperin Kevin & Bob (Osage River); LePage Bill; Guier Nelson; Kirby Russ & Marcia; Dailey P.E. Steve (Fairfax Drainage District); Nolker Barb (Ray Co Farm Bureau); Kirby Karen; Alexander Terry (Consolidated North County LD); Dowdy Larry (Little River Drainage District); Duensing Doug & Carol; Engemann Dan (Congressman Luetkemeyer); Gooch Don; Gill John; Nail David; Lay Bill; Taylor Steve; Williamson John; [REDACTED] NWK; Lucietta Don (Senator Blunt); Matousek Mike (Congressman Graves); Stones Harold (Senator Roberts); Bohl Eric (Congresswoman Hartzler); Connor Jeffrey (Congresswoman Emerson); Huston John P.; Cothen Joe (EPA Region 7); Ketz Kris (KMBC TV-9); Hafemeister Mary (Lower Chariton); Zeysing Robert H.; bmillerjr@emissourian.com; Weber Alan; Monks Janie (MO DNR); Beacom William; Meyer Steve; Leimkuehler Doris; Muench, Lynn M LRP; Fletcher W.C.; kctv@kctv5.com; [REDACTED] NWD; [REDACTED] HQDA; Poldberg Mindy (Iowa Corn Growers); Ebersole Atalie (Congresswoman Emerson); Hockemeier Max; Gauthier Vincent (KC Port Authority); [REDACTED] HQ02; Gibbs Joseph; Wright Derry; Hershey Harry; Townsend Deanne; [REDACTED] NWK; Klingner Michael; Curtis Don (HDR); Coats Derek (Senator Blunt); Reeder Brenda; Richards Eugene (KTIS Radio); Jenkins Ronald; Meyerkorth Richard; rcityhall@aol.com; Russell McKinney (Ham Hill Farms, Inc.); Mahoney Larry; Flores J.R. (NRCS); Richmond Vicki (Missouri River Relief); Appleton Seth (Congressman Luetkemeyer); Twyman Maria Antonia; LePage Paul W.; Lyon Ashley; Hayes Rick; Twyman Mike; Davis Paul; Kuenzel Danny; Copeland David; Humphreys David; Bryan Bill (MO DNR); Keisker Larry; Stewart Kay (Congresswoman Hartzler); Gibson Ron; Asbury Randy (CPR); Westbrook Rick; Johnson Glenda; Ellis Lauren (Congressman Akin); Rhode Paul (Midwest Area Waterways, Inc.); Anderson, G Witt NWD; Ryland Utlaut (Mid-Missouri Energy, LLC); [REDACTED] NWK; Samson Maryann; Cruse, Lester External Stakeholder; Marble Gary (Congressman Luetkemeyer); Hurst Blake; Dickey Scott; Little Erin (KMBC-TV); Johnson Jerilyn; Banks David (L488); Jasper John; Brockmeier Joe; Blakley Ron; Hurst Blake (Missouri Farm Bureau); Edwards Jim; McManus John (MO AGO); Drew John (DNR); Hockemeier Farrell; Johnston, Paul T NWO; Thomas Joe; Pozzo John; Olin Arvin & Joan; oem@kcmo.org; Brown Chris (Congressman Luetkemeyer); [REDACTED] NWO; Gerlach Travis; Brockmeier Michael; Plattner Aaron; Dewey Dave (River Marine Enterprises); Sieck David; Roettger Eugene (MO Valley LD); Casner Kevin (Sugartree LD); Blair Dennis; Vanwinkle Terry; Imgarten Dave (Imgarten Farms); Rogers Mac (Ray County Ambulance District); Wyatt Charles; Walton James (KCMO Water); Maxwell Wes (FM Global); Diamond Kim; Schwoeppe Kenneth; Kuhler Steve; [REDACTED] MVS External Stakeholder; Dohrman Ben (Bartlett Grain); Macy Babette (Kissick Construction); Lyberger Jesse; Thorson John; [REDACTED] NWK; Diederich Stephen (Wilton Landowner's L&D); Moran Medina (WCI); Grisham Becky (MO Corn Growers); Kinne Zach (Senator Blunt); Newham Kent (Ray-Carroll County Grain Growers); Pogge Frank (DFP Environmental Consulting, LLC); Disinger Katy (Senator McCaskill); Moyer Nathan; Cassidy Dan (Missouri Farm Bureau); Hall Cindy (Senator McCaskill); johnsonsj@centurytel.net; Blair, Amy E NWK; Sloniker Barbara; Phillips Tim (Ray Carroll); Perry Meagan; news@nbcactionnews.com; Wildberger Dottie (Halls Levee Distrit); Manson Ann Edwards; Ratto Mark (Congressman Graves); [REDACTED] NAD; Hommes Harold; Buckallew Adam (MO Soybean Assn.); Owsley Chuck; Farley Mike (Consolidated North County LD); Clark Scott; Berkley Jim (EPA); Bacon Bob; [REDACTED] A NWK; Bledsoe Ron (Saline County LD); Leeds Terry (KCMO Water); Engemann Steve; Ramsey Mark (County Bank); Merensmeyer Wade (Ray-Carroll); Stone Mike (KMZU Radio); [REDACTED] NWO; Livers Richard; Ott Douglas (County Bank); Woolley Leslie (Congressman Cleaver); Luther Tim; Lewellen Rodney (Mi-De LD); Elsbury Angela; Eagleton Tim (FM Global); Turley Sherrie (MODOT); Smart Peggy; Berendzen Buffy (MO Dept of Ag); Shorr David; Poche David; Goodwin Clive; Haldeman Jeremy (Congressman Carnahan); Sandidge Brent; [REDACTED] NWK; Vickers Kyle; Stegmann Michael D.; Knickmeyer Mary; Fletcher John; Wells, Mike MVS External Stakeholder; Robinson Kim; Womack Abner; Vincze

Cc:

Robert; info@waterways.org; Madgett John; Vandiver Gary; Melzer Gary; kmbcnews@gmail.com; Kipping David; Kircher Lisa; Twyman Tim; Schwoeppe Suzanne; Jeff@concordiaimplement.com; Attema Menno; Littleton Bob; [REDACTED] NWK; Durham David (Ray Co. LD #2); Popelka Aaron (Senator Moran); Wolfe Alan (ESI Contracting Corp); Wheeler Jim; Davis Art; Nordwald Mike (Ray-Carroll); Gloe Harold; Klenklen Chris (MO Dept. of Ag); Rudy James (Jay) USACE Napoleon; Walley George; Noll Rich(KCMO Water); Waters Linda; Maczuk Bill; Binder Darwin (L497); Nikodum Don; [REDACTED] HQ02; Dunn Thomas (Gateway Arch Riverfront); Glosemeyer Maurice; Moody Wayne; Jacob Scott; newsdesk@kctv5.com; Rea Donald (St. Louis Water); Foreman Jarrell (Ray County FSA); Perry Ernie (MODOT); Daniels-Murray Larry (D Bar M LLC); Perry Bobby; Warren Beth; [REDACTED] NWK; [REDACTED] LRP; Stegmann Richard (Lange-Stegmann); Townsend Tom; Bell Tom (USFWS); McMullen Dalla; Perry Bob (Perry Ag Lab); Truesdale Sharmon (Waterways Council, Inc.); Kaiser Glenn & Nancy; Noltensmeyer John (Montgomery County); Armstrong Mike (WaterOne); Buhrmester Rex; Schupp Mark; Morgan Steve; Markt Carla; Tiemeyer Paul (Rock Port); Jacoby Karin; Boss Naomi (Congressman Graves); Keck J.(St. John's Levee & Drainage); news@kmbc.com; Arnold Mike; Klippenstein Brian (Senator Blunt); Dukes Corey (Senator McCaskill); Forck Kelly (Cole Junction LD); Vinning Rob; Howlett David (Price Howlett); Dorsey Darrell (BPU); Horgan Tom (Ameren); Perry Kristin (ALOT); Henry Peter (Senator Blunt); [REDACTED] NWK; Zimmer Peter; Susan@missouriruralservices.com; Dieckmann Phillis (City of Levasy); Blechinger, Erik T NWO; Fisher Sherry (AG Koster); Schluter C.C.; Manson Gary (Brunswick-Dalton LD); Paulsmeyer Duane; Elmore John; Nelson-Stastny Wayne (USFWS); Nance Bob; news@wdaftv4.com; Meyer Randy; [REDACTED] NWK; Carr Mark; Cieslik Larry (HDR); Seigfreid Paul; sswindler@mfa-inc.com; Stucker Marcus; Lee, LetMon HQ02; Gentry Allen; Human David; Waters Glen; Smith Katie; [REDACTED] NWK; Schenk, Kathryn M NWO; Nail Jeff; Klingner Diaz Karla; Price Marge (Price Howlett); Imgarten Barry; McNelly Josh (Ray-Carroll Crop Insurance); Sullivan Tade; Payne Tom (Dean-Mizzou CAFNR); Hofmann, Anthony J COL NWK; [REDACTED] MVS External Stakeholder; Dawson John; Massman John; Franken John(Attorney); McMahon, John R BG NWD; McNeall Ron; Prenger Daniel (Prenger Farms); Porter Clark (Senator McCaskill); Hecox Rob; Slade Kathy; Johnson Sam; Davis Adam (Congresswoman Hartzler); Hoffman Linda(KCMO Water); Kucera Ron; Cowherd Emmalie; Holloway Leslie (MO Farm Bureau); Brennan Larry (Kaw Valley Drainage); Erling Wilmer; Lucy Gary & Sandy; Blalock Steve; Meng Lanny; Ferguson Roger; Jenkins Holly (Congressman Cleaver); Redmond Jeane (Z Bar Farms); Schlicht Mark(ESI Contracting Corp); Daniels Jimmy (Whitham Levee District); Hardecke Ron; Stock Tom; Alder Powers; Flickner Ryan (Senator Roberts); Trachsel Wayne (Chamois LD); Davids@sydenstrickerimp.com; Campbell Billy (Goppert Financial Bank); Gebhardt Jeffrey (Lower Chariton); Meng Rodney; Manson Nicholas; Babb Robert; Munson Ross Carol; Williamson Bob (KCMO Water); Mayfield Ann; Ruch, Robert J COL NWO; Whitley Melvin; [REDACTED] HQ; Steele Brad; Proffitt Jim; Manson Phil (Brunswick-Dalton LD); Schremp Tom; Schaffer John (Union Township Drainage District); Jorgensen Don; Stouffer Bill; Ludwig Dale (MO Soybean Assn.); Rouse Karen; Frakes Lanny; Blackwell Bill; Rehmeier Dean (Augusta Bottom Levee Protection Assoc.); McMurry Dave (UMIMRA); Clemens Jim; Fuhrman Dan; Farhat, Jody S NWD02; McNeall Raymond

Subject: Re: ***Conditions Continue to Worsen In Upper Missouri River Basin***

Tom's letters and the Corps' news releases will be on the Richmond News AG page on Thursday. Tom, thanks for sending these.

On Wed, May 25, 2011 at 4:11 PM, Bill Jackson <bill@agriservices.com> wrote:

Thanks Tom,

Bill Jackson

ASB

(800) 279-4229

(660) 553-8997 cell

bill@agriservices.com

From: Tom & Karla Waters [mailto:waters4@ix.netcom.com]

Sent: Wednesday, May 25, 2011 11:17 AM

To: Roe Melissa (Congressman Graves); Stundebek John & Carol; Colvin Eric (Howard Levee District #3); Famuliner George; Hawkins Garrett (MO Farm Bureau); Vandiver Perry; Shirley Steve; geibpallets@yahoo.com; Stundebek Matt; Frazier Jenny (Missouri AGO); Heil Nelson; Marshall Gary (MO Corn Growers); Spickert Donna (Congresswoman Hartzler); Kay Morris; Comodeca Mike; Padgett Darrel; Endsley Art & Christie; Oberdiek Gary; Wiedemeier Dan; Kerperin Kevin & Bob (Osage River); LePage Bill; Guier Nelson; Kirby Russ & Marcia; Dailey P.E. Steve (Fairfax Drainage District); Nolker Barb (Ray Co Farm Bureau); Kirby Karen; Alexander Terry (Consolidated North County LD); Dowdy Larry (Little River Drainage District); Duensing Doug & Carol; Engemann Dan (Congressman Luetkemeyer); Gooch Don; Gill John; Nail David; Lay Bill; Taylor Steve; Williamson John; [REDACTED] (USACE); Lucietta Don (Senator Blunt); Matousek Mike (Congressman Graves); Stones Harold (Senator Roberts); Bohl Eric (Congresswoman Hartzler); Connor Jeffrey (Congresswoman Emerson); Huston John P.; Cothen Joe (EPA Region 7); Ketz Kris (KMBC TV-9); Hafemeister Mary (Lower Chariton); Zeysing Robert H.; bmillerjr@emissourian.com; Weber Alan; Monks Janie (MO DNR); Beacom William; Meyer Steve; Leimkuehler Doris; Muench Lynn (AWO); Fletcher W.C.; kctv@kctv5.com; [REDACTED] (USACE); Jorns Colonel Byron (ASA Office); Poldberg Mindy (Iowa Corn Growers); Ebersole Atalie (Congresswoman Emerson); Hockemeier Max; Gauthier Vincent (KC Port Authority); [REDACTED] (HQUSACE); Gibbs Joseph; Wright Derry; Hershey Harry; Townsend Deanne; [REDACTED] (KC District USACE); Klingner Michael; Curtis Don (HDR); Coats Derek (Senator Blunt); Reeder Brenda; Richards Eugene (KTIS Radio); Jenkins Ronald; Meyerkorth Richard; rcityhall@aol.com; Russell McKinney (Ham Hill Farms, Inc.); Mahoney Larry; Flores J.R. (NRCS); Richmond Vicki (Missouri River Relief); Appleton Seth (Congressman Luetkemeyer); Twyman Maria Antonia; LePage Paul W.; Lyon Ashley; Hayes Rick; Twyman Mike; Davis Paul; Kuenzel Danny; Copeland David; Humphreys David; Bryan Bill (MO DNR); Keisker Larry; Stewart Kay (Congresswoman Hartzler); Gibson Ron; Asbury Randy (CPR); Westbrook Rick; Johnson Glenda; Ellis Lauren (Congressman Akin); Rhode Paul (Midwest Area Waterways, Inc.); Anderson Witt (USACE); Ryland Utlaut (Mid-Missouri Energy, LLC); Sanders Cliff; Samson Maryann; Cruse Lester (Ergon); Marble Gary (Congressman Luetkemeyer); Hurst Blake; Dickey Scott; Little Erin (KMBC-TV); Johnson Jerilyn; Banks David (L488); Jasper John; Brockmeier Joe; Blakley Ron; Hurst Blake (Missouri Farm Bureau); Edwards Jim; McManus John (MO AGO); Drew John (DNR); Hockemeier Farrell; Johnston Paul; Thomas Joe; Pozzo John; Olin Arvin & Joan; oem@kcmo.org; Brown Chris (Congressman Luetkemeyer); [REDACTED] (USACE); Gerlach Travis; Brockmeier Michael; Plattner Aaron; Dewey Dave (River Marine Enterprises); Sieck David; Roettger Eugene (MO Valley LD); Casner Kevin (Sugartree LD); Blair Dennis; Vanwinkle Terry; Imgarten Dave (Imgarten Farms); Rogers Mac (Ray County Ambulance District); Wyatt Charles; Walton James (KCMO Water); Maxwell Wes (FM Global); Diamond Kim; Schwoeppe Kenneth; Kuhler Steve; Lensing Brian; Dohrman Ben (Bartlett Grain); Macy Babette (Kissick Construction); Lyberger Jesse; Thorson John; Myers Larry (USACE KC District); Diederich Stephen (Wilton Landowner's L&D); Moran Medina (WCI); Grisham Becky (MO Corn Growers); Kinne Zach (Senator Blunt); Newham Kent (Ray-Carroll County Grain Growers); Pogge Frank (DFP Environmental Consulting, LLC); Disinger Katy (Senator McCaskill); Moyer Nathan; Cassidy Dan (Missouri Farm Bureau); Hall Cindy (Senator McCaskill); johnsonsj@centurytel.net; Blair Amy (USACE KC District); Sloniker Barbara; Phillips Tim (Ray Carroll); Perry Meagan; news@nbcactionnews.com; Wildberger Dottie (Halls Levee Distrit); Manson Ann Edwards; Ratto Mark (Congressman Graves); [REDACTED] (USACE-KC); Hommes Harold; Buckallew Adam (MO Soybean Assn.); Owsley Chuck; Farley Mike (Consolidated North County LD); Clark Scott; Berkley Jim (EPA); Bacon Bob; [REDACTED] (USACE); Bledsoe Ron (Saline County LD); Leeds Terry (KCMO Water); Engemann Steve; Ramsey Mark (County Bank); Bill Jackson;

From: Tom & Karla Waters [mailto:waters4@ix.netcom.com]

Sent: Wednesday, May 25, 2011 11:17 AM

To: Roe Melissa (Congressman Graves); Stundebek John & Carol; Colvin Eric (Howard Levee District #3); Famuliner George; Hawkins Garrett (MO Farm Bureau); Vandiver Perry; Shirley Steve; geibpallets@yahoo.com; Stundebek Matt; Frazier Jenny (Missouri AGO); Heil Nelson; Marshall Gary (MO Corn Growers); Spickert Donna (Congresswoman Hartzler); Kay Morris; Comodeca Mike; Padgett Darrel; Endsley Art & Christie; Oberdiek Gary; Wiedemeier Dan; Kerperin Kevin & Bob (Osage River); LePage Bill; Guier Nelson; Kirby Russ & Marcia; Dailey P.E. Steve (Fairfax Drainage District); Nolker Barb (Ray Co Farm Bureau); Kirby Karen; Alexander Terry (Consolidated North County LD); Dowdy Larry (Little River Drainage District); Duensing Doug & Carol; Engemann Dan (Congressman Luetkemeyer); Gooch Don; Gill John; Nail David; Lay Bill; Taylor Steve; Williamson John; [REDACTED] (USACE); Lucietta Don (Senator Blunt); Matousek Mike (Congressman Graves); Stones Harold (Senator Roberts); Bohl Eric (Congresswoman Hartzler); Connor Jeffrey (Congresswoman Emerson); Huston John P.; Cothen Joe (EPA Region 7); Ketz Kris (KMBC TV-9); Hafemeister Mary (Lower Chariton); Zeysing Robert H.; bmillerjr@emissourian.com; Weber Alan; Monks Janie (MO DNR); Beacom William; Meyer Steve; Leimkuehler Doris; Muench Lynn (AWO); Fletcher W.C.; kctv@kctv5.com; [REDACTED] (USACE); Jorns Colonel Byron (ASA Office); Poldberg Mindy (Iowa Corn Growers); Ebersole Atalie (Congresswoman Emerson); Hockemeier Max; Gauthier Vincent (KC Port Authority); [REDACTED] (HQUSACE); Gibbs Joseph; Wright Derry; Hershey Harry; Townsend Deanne; [REDACTED] (KC District USACE); Klingner Michael; Curtis Don (HDR); Coats Derek (Senator Blunt); Reeder Brenda; Richards Eugene (KTIS Radio); Jenkins Ronald; Meyerkorth Richard; rcityhall@aol.com; Russell McKinney (Ham Hill Farms, Inc.); Mahoney Larry; Flores J.R. (NRCS); Richmond Vicki (Missouri River Relief); Appleton Seth (Congressman Luetkemeyer); Twyman Maria Antonia; LePage Paul W.; Lyon Ashley; Hayes Rick; Twyman Mike; Davis Paul; Kuenzel Danny; Copeland David; Humphreys David; Bryan Bill (MO DNR); Keisker Larry; Stewart Kay (Congresswoman Hartzler); Gibson Ron; Asbury Randy (CPR); Westbrook Rick; Johnson Glenda; Ellis Lauren (Congressman Akin); Rhode Paul (Midwest Area Waterways, Inc.); Anderson Witt (USACE); Ryland Utlaut (Mid-Missouri Energy, LLC); Sanders Cliff; Samson Maryann; Cruse Lester (Ergon); Marble Gary (Congressman Luetkemeyer); Hurst Blake; Dickey Scott; Little Erin (KMBC-TV); Johnson Jerilyn; Banks David (L488); Jasper John; Brockmeier Joe; Blakley Ron; Hurst Blake (Missouri Farm Bureau); Edwards Jim; McManus John (MO AGO); Drew John (DNR); Hockemeier Farrell; Johnston Paul; Thomas Joe; Pozzo John; Olin Arvin & Joan; oem@kcmo.org; Brown Chris (Congressman Luetkemeyer); [REDACTED] (USACE); Gerlach Travis; Brockmeier Michael; Plattner Aaron; Dewey Dave (River Marine Enterprises); Sieck David; Roettger Eugene (MO Valley LD); Casner Kevin (Sugartree LD); Blair Dennis; Vanwinkle Terry; Imgarten Dave (Imgarten Farms); Rogers Mac (Ray County Ambulance District); Wyatt Charles; Walton James (KCMO Water); Maxwell Wes (FM Global); Diamond Kim; Schwoeppe Kenneth; Kuhler Steve; Lensing Brian; Dohrman Ben (Bartlett Grain); Macy Babette (Kissick Construction); Lyberger Jesse; Thorson John; Myers Larry (USACE KC District); Diederich Stephen (Wilton Landowner's L&D); Moran Medina (WCI); Grisham Becky (MO Corn Growers); Kinne Zach (Senator Blunt); Newham Kent (Ray-Carroll County Grain Growers); Pogge Frank (DFP Environmental Consulting, LLC); Disinger Katy (Senator McCaskill); Moyer Nathan; Cassidy Dan (Missouri Farm Bureau); Hall Cindy (Senator McCaskill); johnsonsj@centurytel.net; Blair Amy (USACE KC District); Sloniker Barbara; Phillips Tim (Ray Carroll); Perry Meagan; news@nbcactionnews.com; Wildberger Dottie (Halls Levee Distrit); Manson Ann Edwards; Ratto Mark (Congressman Graves); [REDACTED] (USACE-KC); Hommes Harold; Buckallew Adam (MO Soybean Assn.); Owsley Chuck; Farley Mike (Consolidated North County LD); Clark Scott; Berkley Jim (EPA); Bacon Bob; [REDACTED] (USACE); Bledsoe Ron (Saline County LD); Leeds Terry (KCMO Water); Engemann Steve; Ramsey Mark (County Bank); Bill Jackson; Merensmeyer Wade (Ray-Carroll); Stone Mike (KMZU Radio); [REDACTED] (Omaha District USACE); Livers Richard; Ott Douglas (County Bank); Woolley Leslie (Congressman Cleaver); Luther Tim; Lewellen Rodney (Mi-De LD); Elsbury Angela; Eagleton Tim (FM Global); Turley Sherrie (MODOT); Smart Peggy; Berendzen Buffy (MO Dept of Ag); Shorr David; Poche David; Goodwin Clive; Haldeman Jeremy (Congressman Carnahan); Sandidge Brent; [REDACTED] (USACE); Vickers Kyle; Stegmann Michael D.; Knickmeyer Mary; Fletcher John; Wells Mike; Robinson Kim; Womack Abner; Vincze Robert; info@waterways.org; Madgett John; Vandiver Gary; Melzer Gary; kmbcnews@gmail.com; Kipping David; Kircher Lisa; Twyman Tim; Schwoeppe Suzanne;

Merensmeyer Wade (Ray-Carroll); Stone Mike (KMZU Radio); [REDACTED] (Omaha District USACE); Livers Richard; Ott Douglas (County Bank); Woolley Leslie (Congressman Cleaver); Luther Tim; Lewellen Rodney (Mi-De LD); Elsbury Angela; Eagleton Tim (FM Global); Turley Sherrie (MODOT); Smart Peggy; Berendzen Buffy (MO Dept of Ag); Shorr David; Poche David; Goodwin Clive; Haldeman Jeremy (Congressman Carnahan); Sandidge Brent; [REDACTED] (USACE); Vickers Kyle; Stegmann Michael D.; Knickmeyer Mary; Fletcher John; Wells Mike; Robinson Kim; Womack Abner; Vincze Robert; info@waterways.org; Madgett John; Vandiver Gary; Melzer Gary; kmbcnews@gmail.com; Kipping David; Kircher Lisa; Twyman Tim; Schwoeppe Suzanne; Jeff@concordiaimplement.com; Attema Menno; Littleton Bob; [REDACTED] (USACE Kansas City); Durham David (Ray Co. LD #2); Popelka Aaron (Senator Moran); Wolfe Alan (ESI Contracting Corp); Wheeler Jim; Davis Art; Nordwald Mike (Ray-Carroll); Gloe Harold; Klenklen Chris (MO Dept. of Ag); Rudy James (Jay) USACE Napoleon; Walley George; Noll Rich (KCMO Water); Waters Linda; Maczuk Bill; Binder Darwin (L497); Nikodum Don; [REDACTED] (USACE); Dunn Thomas (Gateway Arch Riverfront); Glosemeyer Maurice; Moody Wayne; Jacob Scott; Johnson Jerilyn; newsdesk@kctv5.com; Rea Donald (St. Louis Water); Foreman Jarrell (Ray County FSA); Perry Ernie (MODOT); Daniels-Murray Larry (D Bar M LLC); Perry Bobby; Warren Beth; [REDACTED] (USACE); Martin Cornel (Water Resources Coalition); Stegmann Richard (Lange-Stegmann); Townsend Tom; Bell Tom (USFWS); McMullen Dalla; Perry Bob (Perry Ag Lab); Truesdale Sharmon (Waterways Council, Inc.); Kaiser Glenn & Nancy; Noltensmeyer John (Montgomery County); Armstrong Mike (WaterOne); Buhrmester Rex; Knopf David; Schupp Mark; Morgan Steve; Markt Carla; Tiemeyer Paul (Rock Port); Jacoby Karin; Boss Naomi (Congressman Graves); Keck J. (St. John's Levee & Drainage); news@kmbc.com; Arnold Mike; Klippenstein Brian (Senator Blunt); Dukes Corey (Senator McCaskill); Forck Kelly (Cole Junction LD); Vinning Rob; Howlett David (Price Howlett); Dorsey Darrell (BPU); Horgan Tom (Ameren); Perry Kristin (ALOT); Henry Peter (Senator Blunt); [REDACTED] (USACE); Zimmer Peter; Susan@MissouriRuralServices.com; Dieckmann Phillis (City of Levasy); Blechinger Erik (USACE MO River); Fisher Sherry (AG Koster); Schluter C.C.; Manson Gary (Brunswick-Dalton LD); Paulsmeyer Duane; Elmore John; Nelson-Stastny Wayne (USFWS); Nance Bob; news@wdaftv4.com; Meyer Randy; [REDACTED] (USACE); Carr Mark; Cieslik Larry (HDR); Seigfreid Paul; sswindler@mfa-inc.com; Stucker Marcus; Lee Let Mon; Gentry Allen; Human David; Waters Glen; Smith Katie; [REDACTED] (USACE); Schenk Katie (Omaha District USACE); Nail Jeff; Klingner Diaz Karla; Price Marge (Price Howlett); Imgarten Barry; McNelly Josh (Ray-Carroll Crop Insurance); Sullivan Tade; Payne Tom (Dean-Mizzou CAFNR); Hofmann Colonel Anthony J. (USACE); Mitas Jim (Congressman Akin); Dawson John; Massman John; Franken John (Attorney); McMahon BG John R. (USACE); McNeall Ron; Prenger Daniel (Prenger Farms); Porter Clark (Senator McCaskill); Hecox Rob; Slade Kathy; Johnson Sam; Davis Adam (Congresswoman Hartzler); Hoffman Linda (KCMO Water); Kucera Ron; Cowherd Emmalie; Waters Farms, Inc.; Holloway Leslie (MO Farm Bureau); Brennan Larry (Kaw Valley Drainage); Erfling Wilmer; Lucy Gary & Sandy; Blalock Steve; Meng Lanny; Ferguson Roger; Jenkins Holly (Congressman Cleaver); Redmond Jeane (Z Bar Farms); Schlicht Mark (ESI Contracting Corp); Daniels Jimmy (Whitham Levee District); Hardecke Ron; Stock Tom; Alder Powers; Flickner Ryan (Senator Roberts); Trachsel Wayne (Chamois LD); Davids@Sydenstrickerimp.com; Campbell Billy (Goppert Financial Bank); Randy Asbury; Gebhardt Jeffrey (Lower Chariton); Meng Rodney; Manson Nicholas; Babb Robert; Munson Ross Carol; Williamson Bob (KCMO Water); Mayfield Ann; Ruch Colonel Robert J (USACE Omaha); Whitley Melvin; [REDACTED] (HQUSACE); Steele Brad; Proffitt Jim; Manson Phil (Brunswick-Dalton LD); Schrempf Tom; Schaffer John (Union Township Drainage District); Jorgensen Don; Stouffer Bill; Ludwig Dale (MO Soybean Assn.); Rouse Karen; Frakes Lanny; Blackwell Bill; Rehmeier Dean (Augusta Bottom Levee Protection Assoc.); McMurry Dave (UMIMRA); Clemens Jim; Fuhrman Dan; Farhat Jody (USACE); McNeall Raymond

Subject: ***Conditions Continue to Worsen In Upper Missouri River Basin***

Importance: High

Conditions continue to Worsen in Upper Missouri River Basin

Friends:

Please see the two news releases from the Corps of Engineers. Additional rainfall and continued snow melt are causing even more problems for Missouri River managers. Full reservoirs throughout the system are causing the Corps to make historically high releases. Those downstream need to pay close attention to Corps of Engineer water release information, rainfall forecast and local river levels.

-Tom Waters

Missouri Levee & Drainage District Association

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: May 24, 2011

Contact: Kevin R. Quinn 402-995-2419

kevin.r.quinn@usace.army.mil

Jody Farhat 402-996-3840

Riverwatch Daily - Garrison and Oahe Dams

Update #12

OMAHA, Neb. --The situation in the Missouri River basin continues to deteriorate due to heavy rain in eastern Montana and western North Dakota, necessitating higher releases from Garrison Dam in Riverdale, N.D. and Oahe Dam near Pierre, S.D. to evacuate stored flood waters.

In expectation of continued high runoff, the U.S. Army Corps of Engineers will release a daily bulletin detailing releases and levels for both dams. Conditions in the Missouri River basin are changing rapidly, so forecasted releases shown below are subject to change with little notice. Below are the May 24, 2011 statistics for the two dams.

Daily Information Update

Garrison Dam and Lake Sakakawea:

- * Midnight reservoir level - 1850.4 feet mean sea level
 - * Yesterday's Reservoir Inflow - 113,000 cubic feet per second (cfs)
 - * Current Reservoir Release - 70,000 cfs, increasing to 60,000 cfs Monday afternoon.
 - * Annual Flood control and multiple use zone - El. 1,837.5 to 1,850 msl
 - * Exclusive flood control zone- El. 1,850-1,854 msl
 - * Top of spillway gates - 1,854 feet msl
 - * 6 a.m. River Stage at Bismarck-14.5 feet (Flood stage at Bismarck-16.0 feet)
 - * Planned scheduled releases, subject to change based on changing reservoir and river conditions:
- * Wednesday May 25: Increase to 75,000 cfs at 8 a.m.
 - * Thursday, May 26: Hold 75,000 cfs
 - * Friday May 27 Increase to 80,000 cfs at 8 a.m.
 - * Saturday, May 28 and Sunday May 29: Hold 80,000 cfs
 - * Monday, May 30: Increase to 85,000 cfs at 8 a.m.

Oahe Dam and Lake:

- * Midnight reservoir level - 1617.6 feet msl
 - * Yesterday's Reservoir Inflow - 94,000 cfs
 - * Current Reservoir Release - 65,000 cfs
 - * 6 am river stage at Pierre 12.5 feet (Flood stage 15.0)
 - * Annual Flood control and multiple use zone - El. 1607.5 to 1617.0 feet msl
 - * Exclusive flood control zone - El. 1617.0 to 1620.0 feet msl
 - * Top of spillway gates: - 1620.0 feet msl
 - * Planned scheduled releases, subject to change based on changing reservoir and river conditions:
- * Wednesday, May 25: Increase to 70,000 cfs
 - * Thursday, May 26: Increase to 75,000 cfs
 - * Friday, May 27: Increase to 80,000 cfs
 - * Saturday, May 28: Increase to 85,000 cfs
 - * Sunday, May 29: Hold at 85,000 cfs

Garrison Dam is a 210-foot high rolled earth embankment. Discharges are normally passed through five power tunnels having a combined discharge capacity of 41,000 cfs, and three flood tunnels having a combined discharge capacity of 98,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with 28 tainter gates and has a maximum discharge capacity of 660,000 cfs at the top of its flood control zone. NOTE: The

Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will go through the power plant and regulating tunnels.

Oahe Dam is a 245-foot high rolled earth embankment. Discharges are normally passed through seven power tunnels having a combined discharge capacity of 56,000 cfs, and six flood tunnels having a combined discharge capacity of 111,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with eight tainter gates and has a maximum discharge capacity of 80,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will be made through the power plant and outlet tunnels.

Daily bulletin updates are available from the Corps' website:
<http://www.nwo.usace.army.mil/> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x517661x-448014>>

Northwestern Division's water management website for the most up to date information:

<http://www.nwd-mr.usace.army.mil/rcc/index.html> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x517660x-969376>>

U.S. Army Corps of Engineers Contact: Jody Farhat, Chief, Missouri River Basin Water Management 402-996-3840

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http://us.vocuspr.com/Publish/520028/vcsPRAsset_520028_348656_c5220867-6ce9-45c0-83c2-dfd9e54e58a1_0_USACE_LOGO_small.jpg

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: May 24, 2011

Contact: Kevin R. Quinn 402-995-2419
kevin.r.quinn@usace.army.mil

Jody Farhat 402-996-3840
jody.s.farhat@usace.army.mil

High flows thrust Missouri Basin into uncharted territory

Omaha, Neb. -- Updated forecasts from the National Weather Service are suggesting record flows and heavier volume runoff than earlier models predicted, Corps river managers announced today.

"There's no good news," said Jody Farhat, Chief of the Corps' Missouri River Basin Water Management Division in Omaha. "Water releases are forecast to reach 85,000 cubic feet per second (cfs) out of Garrison and Oahe dams because of steady rain and an above-normal mountain snowpack."

Farhat said that the Corps is approaching the top of the gages at all three upper basin dams - Fort Peck, Garrison and Oahe. "Basically, there is little or no storage left in our reservoirs," she said.

For the Bismarck area, Garrison releases of 85,000 cfs will mean reaching a stage of 17.5 to 18 feet, a situation not encountered since Garrison Dam was built in the 1950's. "It moves us into uncharted territory," said Farhat. The previous record release from Garrison Dam was 65,200 cfs in 1975.

The Pierre area below Oahe Dam will fare a little better because of a buyout program for low-lying properties and repair of drainage problems during the past five years. Still, Pierre will see stages not seen since the dam was constructed. The record release from Oahe Dam prior to this event was 59,300 cfs in 1997.

At Gavins Point farther south, Farhat expects flows to reach 75,000 cfs by June 1 - 5,000 cfs above the record set in 1997 - and additional increases to the 80,000 to 85,000 cfs range are likely by early June.

The Corps' latest water releases are based on the newest river forecasts for the Yellowstone River provided by the National Weather Service's Missouri Basin River Forecast Center.

"This is the situation where we are today," said Farhat, "But it's not the worst case scenario because snowmelt and additional heavy rainfall may mean even higher releases."

Snowpack in the reach above Fort Peck hit 141 percent of normal peak, with current conditions at about 108 percent of the normal peak accumulation. The snowpack above Garrison Dam reached 136 percent of normal peak, but is slow to melt, with 132 percent of the normal peak accumulation remaining and actually gaining snow in some of the higher elevations.

For more information, visit the Spring 2011 Flood Response site at www.nwo.usace.army.mil <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514605x844880>> .

Other places to seek information:

- The Missouri River Basin forecast center. (Clicking on the dots will send you to Advance Hydrologic Prediction Service maps for different parts of the basin.)<http://www.crh.noaa.gov/mbrfc/> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514604x326128>>

- The Advanced Hydrologic Prediction Service Maps are found also at <http://water.weather.gov> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514603x842007>> (arrows in the upper left half of the window will help you navigate to other areas).

- This link is for the western half of North Dakota:
<http://water.weather.gov/ahps2/index.php?wfo=bis&view=1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6>
<<http://USACEARMY.pr-optout.com/Url.aspx?520028x514602x323254>> .

- This link shows the western half of South Dakota:

<http://water.weather.gov/ahps2/index.php?wfo=unr&view=1,1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6>
<<http://USACEARMY.pr-optout.com/Url.aspx?520028x514601x839130>> .

- This is the Missouri River Basin Water Management Page: <http://www.nwd-mr.usace.army.mil/rcc/current.html> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514600x320376>> .

- Another site to check out is:

<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514599x836249>> .

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David Knopf
News Editor
Richmond News
816-776-5454

NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 4:36 PM
To: Braun, Eric NWD; [REDACTED] NWK; [REDACTED] NWK; [REDACTED]
NWD; [REDACTED] NWK; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
NWK; [REDACTED] NWK; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
[REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWO; [REDACTED] NWO;
[REDACTED] NWD02; Farhat, Jody S NWD02; [REDACTED] NWO; [REDACTED]
[REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED]
NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED]
NWD02
Cc: Schenk, Kathryn M NWO; [REDACTED] NWK
Subject: Novozymes Plant Equipment Unloading Photos - Blair, NE Terminal 24May11
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I have uploaded to a Corps public ftp website several photos taken by Mike Olson, CBI, of the unloading operation and ground transport of the Plant Equipment. Thanks Mike for sharing.

FTP Download Instructions IE7 or IE8:

Click on link:

<ftp://ftp.usace.army.mil/pub/nwo/>

Go to "Page" in upper right toolbar of screen and click on scroll arrow;
Select "Open FTP Site in Windows Explorer"; wait a few seconds for the window to open
Highlight the folder "Blair, NE Novozymes 24May11" that you want to download;
Arrow in highlighted area and then right click;
Select "Copy to folder";
Select a folder or location to copy folder to or create a new folder;
Click OK;
Download will begin showing a completion status box.

NOTE: Computer Guru's delete the file contents after 7 days.

[REDACTED]

[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 4:24 PM
To: [REDACTED] NWD02; Farhat, Jody S NWD02
Subject: RE: Request from Nebraska Department of Roads (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

CANCEL THIS REQUEST FOR INFORMATION

-----Original Message-----

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 4:17 PM
To: [REDACTED] NWD02; Farhat, Jody S NWD02
Subject: Request from Nebraska Department of Roads (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

State Engineer Mark Traynowicz of the Nebraska Department of Roads has been asked some questions by the World Herald; before he answers them, he asked us to provide him with a number for last year's peak flows at Brownville and Rulo versus what it might be this year. His number is 402-479-4701.

Thank you kq

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 4:17 PM
To: [REDACTED] NWD02
Cc: Farhat, Jody S NWD02
Subject: RE: Missouri River Mainstem Reservoir plan views (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED],

Thank you for providing me the requested information. Do you have extra copies of Master Manual that you could send one for me.

[REDACTED]
[REDACTED]
Chief, Business Technical Division
Northwestern Division, U.S. Army Corps of Engineers
Phone: [REDACTED]
Cell: [REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWD02
Sent: Tuesday, May 24, 2011 1:13 PM
To: [REDACTED] NWD
Cc: Farhat, Jody S NWD02
Subject: Missouri River Mainstem Reservoir plan views (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mr. [REDACTED],

Jody asked me to forward to you a link to our Missouri River Master Manual.

<http://www.nwd-mr.usace.army.mil/rcc/reports/mmanual/MasterManual.pdf>

You will find the plan views of our reservoirs near the end of the manual in the "Plates" section. The plan view plates are:

Plate II-4: Fort Peck Dam, pg 288 in the pdf Plate II-19: Garrison Dam, pg 303 in the pdf
Plate II-33: Oahe Dam, pg 317 in the pdf Plate II-46: Big Bend Dam, pg 330 of the pdf Plate
II-58: Fort Randall Dam, pg 342 of the pdf Plate II-71: Gavins Point Dam, pg 355 of the pdf

I have also attached the plates to this email in order for you to conveniently view them.

Please don't hesitate to ask for any additional information that you may need.

[REDACTED]
[REDACTED]

USACE, Northwestern Division
Missouri Basin Water Management Division


@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 4:17 PM
To: [REDACTED] NWD02; Farhat, Jody S NWD02
Subject: Request from Nebraska Department of Roads (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

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Thank you kq

Classification: UNCLASSIFIED
Caveats: NONE

From: Bill Jackson [bill@agriservices.com]
Sent: Wednesday, May 25, 2011 4:12 PM
To: Tom & Karla Waters; Roe Melissa (Congressman Graves); Stundebek John & Carol; Colvin Eric (Howard Levee District #3); Famuliner George; Hawkins Garrett (MO Farm Bureau); Vandiver Perry; Shirley Steve; geibpallets@yahoo.com; Stundebek Matt; Frazier Jenny (Missouri AGO); Heil Nelson; Marshall Gary (MO Corn Growers); Spickert Donna (Congresswoman Hartzler); Kay Morris; Comodeca Mike; Padgett Darrel; Endsley Art & Christie; Oberdiek Gary; Wiedemeier Dan; Kerperin Kevin & Bob (Osage River); LePage Bill; Guier Nelson; Kirby Russ & Marcia; Dailey P.E. Steve (Fairfax Drainage District); Nolker Barb (Ray Co Farm Bureau); Kirby Karen; Alexander Terry (Consolidated North County LD); Dowdy Larry (Little River Drainage District); Duensing Doug & Carol; Engemann Dan (Congressman Luetkemeyer); Gooch Don; Gill John; Nail David; Lay Bill; Taylor Steve; Williamson John; [REDACTED] NWK; Lucietta Don (Senator Blunt); Matousek Mike (Congressman Graves); Stones Harold (Senator Roberts); Bohl Eric (Congresswoman Hartzler); Connor Jeffrey (Congresswoman Emerson); Huston John P.; Cothen Joe (EPA Region 7); Ketz Kris (KMBC TV-9); Hafemeister Mary (Lower Chariton); Zeysing Robert H.; bmillerjr@emissourian.com; Weber Alan; Monks Janie (MO DNR); Beacom William; Meyer Steve; Leimkuehler Doris; Muench, Lynn M LRP; Fletcher W.C.; kctv@kctv5.com; [REDACTED] NWD; Jorns, Byron COL HQDA; Poldberg Mindy (Iowa Corn Growers); Ebersole Atalie (Congresswoman Emerson); Hockemeier Max; Gauthier Vincent (KC Port Authority); [REDACTED] HQ02; Gibbs Joseph; Wright Derry; Hershey Harry; Townsend Deanne; [REDACTED] NWK; Klingner Michael; Curtis Don (HDR); Coats Derek (Senator Blunt); Reeder Brenda; Richards Eugene (KTIS Radio); Jenkins Ronald; Meyerkorth Richard; rcityhall@aol.com; Russell McKinney (Ham Hill Farms, Inc.); Mahoney Larry; Flores J.R. (NRCS); Richmond Vicki (Missouri River Relief); Appleton Seth (Congressman Luetkemeyer); Twyman Maria Antonia; LePage Paul W.; Lyon Ashley; Hayes Rick; Twyman Mike; Davis Paul; Kuenzel Danny; Copeland David; Humphreys David; Bryan Bill (MO DNR); Keisker Larry; Stewart Kay (Congresswoman Hartzler); Gibson Ron; Asbury Randy (CPR); Westbrook Rick; Johnson Glenda; Ellis Lauren (Congressman Akin); Rhode Paul (Midwest Area Waterways, Inc.); Anderson, G Witt NWD; Ryland Utlaut (Mid-Missouri Energy, LLC); [REDACTED] W NWK; Samson Maryann; Cruse, Lester External Stakeholder; Marble Gary (Congressman Luetkemeyer); Hurst Blake; Dickey Scott; Little Erin (KMBC-TV); Johnson Jerilyn; Banks David (L488); Jasper John; Brockmeier Joe; Blakley Ron; Hurst Blake (Missouri Farm Bureau); Edwards Jim; McManus John (MO AGO); Drew John (DNR); Hockemeier Farrell; Johnston, Paul T NWO; Thomas Joe; Pozzo John; Olin Arvin & Joan; oem@kcmo.org; Brown Chris (Congressman Luetkemeyer); [REDACTED] NWO; Gerlach Travis; Brockmeier Michael; Plattner Aaron; Dewey Dave (River Marine Enterprises); Sieck David; Roettger Eugene (MO Valley LD); Casner Kevin (Sugartree LD); Blair Dennis; Vanwinkle Terry; Imgarten Dave (Imgarten Farms); Rogers Mac (Ray County Ambulance District); Wyatt Charles; Walton James (KCMO Water); Maxwell Wes (FM Global); Diamond Kim; Schwoeppe Kenneth; Kuhler Steve; Lensing, Brian MVS External Stakeholder; Dohrman Ben (Bartlett Grain); Macy Babette (Kissick Construction); Lyberger Jesse; Thorson John; [REDACTED] NWK; Diederich Stephen (Wilton Landowner's L&D); Moran Medina (WCI); Grisham Becky (MO Corn Growers); Kinne Zach (Senator Blunt); Newham Kent (Ray-Carroll County Grain Growers); Pogge Frank (DFP Environmental Consulting, LLC); Disinger Katy (Senator McCaskill); Moyer Nathan; Cassidy Dan (Missouri Farm Bureau); Hall Cindy (Senator McCaskill); johnsonsj@centurytel.net; Blair, Amy E NWK; Sloniker Barbara; Phillips Tim (Ray Carroll); Perry Meagan; news@nbcactionnews.com; Wildberger Dottie (Halls Levee Distrit); Manson Ann Edwards; Ratto Mark (Congressman Graves); [REDACTED] NAD; Hommes Harold; Buckallew Adam (MO Soybean Assn.); Owsley Chuck; Farley Mike (Consolidated North County LD); Clark Scott; Berkley Jim (EPA); Bacon Bob; [REDACTED] A NWK; Bledsoe Ron (Saline County LD); Leeds Terry (KCMO Water); Engemann Steve; Ramsey Mark (County Bank); Merensmeyer Wade (Ray-Carroll); Stone Mike (KMZU Radio); [REDACTED] NWO; Livers Richard; Ott Douglas (County Bank); Woolley Leslie (Congressman Cleaver); Luther Tim; Lewellen Rodney (Mi-De LD); Elsbury Angela; Eagleton Tim (FM Global); Turley Sherrie (MODOT); Smart Peggy; Berendzen Buffy (MO Dept of Ag); Shorr David; Poche David; Goodwin Clive; Haldeman Jeremy (Congressman Carnahan); Sandidge Brent; [REDACTED] NWK; Vickers Kyle; Stegmann Michael D.; Knickmeyer Mary; Fletcher John; [REDACTED] MVS External Stakeholder; Robinson Kim; Womack Abner; Vincze Robert; info@waterways.org; Madgett John; Vandiver Gary; Melzer Gary;

To: kmbcnews@gmail.com; Kipping David; Kircher Lisa; Twyman Tim; Schwoeppe Suzanne; Jeff@concordiaimplement.com; Attema Menno; Littleton Bob; [REDACTED] NWK; Durham David (Ray Co. LD #2); Popelka Aaron (Senator Moran); Wolfe Alan (ESI Contracting Corp); Wheeler Jim; Davis Art; Nordwald Mike (Ray-Carroll); Gloe Harold; Klenklen Chris (MO Dept. of Ag); Rudy James (Jay) USACE Napoleon; Walley George; Noll Rich(KCMO Water); Waters Linda; Maczuk Bill; Binder Darwin (L497); Nikodum Don; [REDACTED] HQ02; Dunn Thomas (Gateway Arch Riverfront); Glosemeyer Maurice; Moody Wayne; Jacob Scott; Johnson Jerilyn; newsdesk@kctv5.com; Rea Donald (St. Louis Water); Foreman Jarrell (Ray County FSA); Perry Ernie (MODOT); Daniels-Murray Larry (D Bar M LLC); Perry Bobby; Warren Beth; Combs, David L NWK; [REDACTED] LRP; Stegmann Richard (Lange-Stegmann); Townsend Tom; Bell Tom (USFWS); McMullen Dalla; Perry Bob (Perry Ag Lab); Truesdale Sharmon (Waterways Council, Inc.); Kaiser Glenn & Nancy; Noltensmeyer John (Montgomery County); Armstrong Mike (WaterOne); Buhrmester Rex; Knopf David; Schupp Mark; Morgan Steve; Markt Carla; Tiemeyer Paul (Rock Port); Jacoby Karin; Boss Naomi (Congressman Graves); Keck J.(St. John's Levee & Drainage); news@kmbc.com; Arnold Mike; Klippenstein Brian (Senator Blunt); Dukes Corey (Senator McCaskill); Forck Kelly (Cole Junction LD); Vinning Rob; Howlett David (Price Howlett); Dorsey Darrell (BPU); Horgan Tom (Ameren); Perry Kristin (ALOT); Henry Peter (Senator Blunt); [REDACTED] NWK; Zimmer Peter; Susan@MissouriRuralServices.com; Dieckmann Phillis (City of Levasy); Blechinger, Erik T NWO; Fisher Sherry (AG Koster); Schluter C.C.; Manson Gary (Brunswick-Dalton LD); Paulsmeyer Duane; Elmore John; Nelson-Stastny Wayne (USFWS); Nance Bob; news@wdaftv4.com; Meyer Randy; [REDACTED] NWK; Carr Mark; Cieslik Larry (HDR); Seigfreid Paul; sswindler@mfa-inc.com; Stucker Marcus; Lee, LetMon HQ02; Gentry Allen; Human David; Waters Glen; Smith Katie; [REDACTED] NWK; Schenk, Kathryn M NWO; Nail Jeff; Klingner Diaz Karla; Price Marge (Price Howlett); Imgarten Barry; McNelly Josh (Ray-Carroll Crop Insurance); Sullivan Tade; Payne Tom (Dean-Mizzou CAFNR); Hofmann, Anthony J COL NWK; [REDACTED] MVS External Stakeholder; Dawson John; Massman John; Franken John(Attorney); McMahon, John R BG NWD; McNeall Ron; Prenger Daniel (Prenger Farms); Porter Clark (Senator McCaskill); Hecox Rob; Slade Kathy; Johnson Sam; Davis Adam (Congresswoman Hartzler); Hoffman Linda(KCMO Water); Kucera Ron; Cowherd Emmalie; Holloway Leslie (MO Farm Bureau); Brennan Larry (Kaw Valley Drainage); Erfling Wilmer; Lucy Gary & Sandy; Blalock Steve; Meng Lanny; Ferguson Roger; Jenkins Holly (Congressman Cleaver); Redmond Jeane (Z Bar Farms); Schlicht Mark(ESI Contracting Corp); Daniels Jimmy (Whitham Levee District); Hardecke Ron; Stock Tom; Alder Powers; Flickner Ryan (Senator Roberts); Trachsel Wayne (Chamois LD); Davids@Sydenstrickerimp.com; Campbell Billy (Goppert Financial Bank); Randy Asbury; Gebhardt Jeffrey (Lower Chariton); Meng Rodney; Manson Nicholas; Babb Robert; Munson Ross Carol; Williamson Bob (KCMO Water); Mayfield Ann; Ruch, Robert J COL NWO; Whitley Melvin; [REDACTED] HQ; Steele Brad; Proffitt Jim; Manson Phil (Brunswick-Dalton LD); Schrempp Tom; Schaffer John (Union Township Drainage District); Jorgensen Don; Stouffer Bill; Ludwig Dale (MO Soybean Assn.); Rouse Karen; Frakes Lanny; Blackwell Bill; Rehmeier Dean (Augusta Bottom Levee Protection Assoc.); McMurry Dave (UMIMRA); Clemens Jim; Fuhrman Dan; Farhat, Jody S NWD02; McNeall Raymond

Subject: RE: ***Conditions Continue to Worsen In Upper Missouri River Basin***

Thanks Tom,

Bill Jackson

ASB

(800) 279-4229

(660) 553-8997 cell

bill@agriservices.com

Jeff@concordiaimplement.com; Attema Menno; Littleton Bob; [REDACTED] (USACE Kansas City); Durham David (Ray Co. LD #2); Popelka Aaron (Senator Moran); Wolfe Alan (ESI Contracting Corp); Wheeler Jim; Davis Art; Nordwald Mike (Ray-Carroll); Gloe Harold; Klenklen Chris (MO Dept. of Ag); Rudy James (Jay) USACE Napoleon; Walley George; Noll Rich(KCMO Water); Waters Linda; Maczuk Bill; Binder Darwin (L497); Nikodum Don; [REDACTED] (USACE); Dunn Thomas (Gateway Arch Riverfront); Glosemeyer Maurice; Moody Wayne; Jacob Scott; Johnson Jerilyn; newsdesk@kctv5.com; Rea Donald (St. Louis Water); Foreman Jarrell (Ray County FSA); Perry Ernie (MODOT); Daniels-Murray Larry (D Bar M LLC); Perry Bobby; Warren Beth; [REDACTED] (USACE); Martin Cornel(Water Resources Coalition); Stegmann Richard (Lange-Stegmann); Townsend Tom; Bell Tom (USFWS); McMullen Dalla; Perry Bob (Perry Ag Lab); Truesdale Sharmon (Waterways Council, Inc.); Kaiser Glenn & Nancy; Noltensmeyer John (Montgomery County); Armstrong Mike (WaterOne); Buhrmester Rex; Knopf David; Schupp Mark; Morgan Steve; Markt Carla; Tiemeyer Paul (Rock Port); Jacoby Karin; Boss Naomi (Congressman Graves); Keck J.(St. John's Levee & Drainage); news@kmbc.com; Arnold MIke; Klippenstein Brian (Senator Blunt); Dukes Corey (Senator McCaskill); Forck Kelly (Cole Junction LD); Vinning Rob; Howlett David (Price Howlett); Dorsey Darrell (BPU); Horgan Tom (Ameren); Perry Kristin (ALOT); Henry Peter (Senator Blunt); [REDACTED] (USACE); Zimmel Peter; Susan@MissouriRuralServices.com; Dieckmann Phillis (City of Levasy); Blechinger Erik (USACE MO River); Fisher Sherry (AG Koster); Schluter C.C.; Manson Gary (Brunswick-Dalton LD); Paulsmeyer Duane; Elmore John; Nelson-Stastny Wayne (USFWS); Nance Bob; news@wdaftv4.com; Meyer Randy; [REDACTED] (USACE); Carr Mark; Cieslik Larry (HDR); Seigfreid Paul; sswindler@mfa-inc.com; Stucker Marcus; Lee Let Mon; Gentry Allen; Human David; Waters Glen; Smith Katie; [REDACTED] (USACE); Schenk Katie (Omaha District USACE); Nail Jeff; Klingner Diaz Karla; Price Marge (Price Howlett); Imgarten Barry; McNelly Josh (Ray-Carroll Crop Insurance); Sullivan Tade; Payne Tom (Dean-Mizzou CAFNR); Hofmann Colonel Anthony J. (USACE); Mitas Jim (Congressman Akin); Dawson John; Massman John; Franken John(Attorney); McMahon BG John R. (USACE); McNeall Ron; Prenger Daniel (Prenger Farms); Porter Clark (Senator McCaskill); Hecox Rob; Slade Kathy; Johnson Sam; Davis Adam (Congresswoman Hartzler); Hoffman Linda(KCMO Water); Kucera Ron; Cowherd Emmalie; Waters Farms, Inc.; Holloway Leslie (MO Farm Bureau); Brennan Larry (Kaw Valley Drainage); Erfling Wilmer; Lucy Gary & Sandy; Blalock Steve; Meng Lanny; Fergason Roger; Jenkins Holly (Congressman Cleaver); Redmond Jeane (Z Bar Farms); Schlicht Mark(ESI Contracting Corp); Daniels Jimmy (Whitham Levee District); Hardecke Ron; Stock Tom; Alder Powers; Flickner Ryan (Senator Roberts); Trachsel Wayne (Chamois LD); Davids@Sydenstrickerimp.com; Campbell Billy (Goppert Financial Bank); Randy Asbury; Gebhardt Jeffrey (Lower Chariton); Meng Rodney; Manson Nicholas; Babb Robert; Munson Ross Carol; Williamson Bob (KCMO Water); Mayfield Ann; Ruch Colonel Robert J (USACE Omaha); Whitley Melvin; [REDACTED] (HQUSACE); Steele Brad; Proffitt Jim; Manson Phil (Brunswick-Dalton LD); Schrempp Tom; Schaffer John (Union Township Drainage District); Jorgensen Dqn; Stouffer Bill; Ludwig Dale (MO Soybean Assn.); Rouse Karen; Frakes Lanny; Blackwell Bill; Rehmeier Dean (Augusta Bottom Levee Protection Assoc.); McMurry Dave (UMIMRA); Clemens Jim; Fuhrman Dan; Farhat Jody (USACE); McNeall Raymond

Subject: ***Conditions Continue to Worsen In Upper Missouri River Basin***

Importance: High

Conditions continue to Worsen in Upper Missouri River Basin

Friends:

Please see the two news releases from the Corps of Engineers. Additional rainfall and continued snow melt are causing even more problems for Missouri River managers. Full reservoirs throughout the system are causing the Corps to make historically high releases.

Those downstream need to pay close attention to Corps of Engineer water release information, rainfall forecast and local river levels.

-Tom Waters

Missouri Levee & Drainage District Association

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: May 24, 2011

Contact: Kevin R. Quinn 402-995-2419

kevin.r.quinn@usace.army.mil

Jody Farhat 402-996-3840

Riverwatch Daily - Garrison and Oahe Dams

Update #12

OMAHA, Neb. --The situation in the Missouri River basin continues to deteriorate due to heavy rain in eastern Montana and western North Dakota, necessitating higher releases from Garrison Dam in Riverdale, N.D. and Oahe Dam near Pierre, S.D. to evacuate stored flood waters.

In expectation of continued high runoff, the U.S. Army Corps of Engineers will release a daily bulletin detailing releases and levels for both dams. Conditions in the Missouri River basin are changing rapidly, so forecasted releases shown below are subject to change with little notice. Below are the May 24, 2011 statistics for the two dams.

Daily Information Update

Garrison Dam and Lake Sakakawea:

- * Midnight reservoir level - 1850.4 feet mean sea level
- * Yesterday's Reservoir Inflow - 113,000 cubic feet per second (cfs)
- * Current Reservoir Release - 70,000 cfs, increasing to 60,000 cfs Monday afternoon.
- * Annual Flood control and multiple use zone - El. 1,837.5 to 1,850 msl
- * Exclusive flood control zone- El. 1,850-1,854 msl
- * Top of spillway gates - 1,854 feet msl
- * 6 a.m. River Stage at Bismarck-14.5 feet (Flood stage at Bismarck-16.0 feet)
- * Planned scheduled releases, subject to change based on changing reservoir and river conditions:

- * Wednesday May 25: Increase to 75,000 cfs at 8 a.m.
- * Thursday, May 26: Hold 75,000 cfs
- * Friday May 27 Increase to 80,000 cfs at 8 a.m.
- * Saturday, May 28 and Sunday May 29: Hold 80,000 cfs
- * Monday, May 30: Increase to 85,000 cfs at 8 a.m.

Oahe Dam and Lake:

- * Midnight reservoir level - 1617.6 feet msl
- * Yesterday's Reservoir Inflow - 94,000 cfs
- * Current Reservoir Release - 65,000 cfs
- * 6 am river stage at Pierre 12.5 feet (Flood stage 15.0)
- * Annual Flood control and multiple use zone - El. 1607.5 to 1617.0 feet msl
- * Exclusive flood control zone - El. 1617.0 to 1620.0 feet msl
- * Top of spillway gates: - 1620.0 feet msl
- * Planned scheduled releases, subject to change based on changing reservoir and river conditions:

- * Wednesday, May 25: Increase to 70,000 cfs
- * Thursday, May 26: Increase to 75,000 cfs
- * Friday, May 27: Increase to 80,000 cfs
- * Saturday, May 28: Increase to 85,000 cfs
- * Sunday, May 29: Hold at 85,000 cfs

Garrison Dam is a 210-foot high rolled earth embankment. Discharges are normally passed through five power tunnels having a combined discharge capacity of 41,000 cfs, and three flood tunnels having a combined discharge capacity of 98,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with 28 tainter gates and has a maximum discharge capacity of 660,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will go through the power plant and regulating tunnels.

Oahe Dam is a 245-foot high rolled earth embankment. Discharges are normally passed through seven power tunnels having a combined discharge capacity of 56,000 cfs, and six flood tunnels having a combined discharge capacity of 111,000 cfs. They may also be passed through the spillway when necessary. The spillway is equipped with eight tainter gates and has a maximum discharge capacity of 80,000 cfs at the top of its flood control zone. NOTE: The Corps has never previously used the spillway for releases. The Corps anticipates that all releases this year will be made through the power plant and outlet tunnels.

Daily bulletin updates are available from the Corps' website: <http://www.nwo.usace.army.mil/<http://USACEARMY.pr-optout.com/Url.aspx?520028x517661x-448014>>

Northwestern Division's water management website for the most up to date information:

<http://www.nwd-mr.usace.army.mil/rcc/index.html> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x517660x-969376>>

U.S. Army Corps of Engineers Contact: Jody Farhat, Chief, Missouri River Basin Water Management 402-996-3840

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http://us.vocuspr.com/Publish/520028/vcsPRAsset_520028_348656_c5220867-6ce9-45c0-83c2-dfd9e54e58a1_0_USACE_LOGO_small.jpg

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: May 24, 2011

Contact: Kevin R. Quinn 402-995-2419
kevin.r.quinn@usace.army.mil

Jody Farhat 402-996-3840
jody.s.farhat@usace.army.mil

High flows thrust Missouri Basin into uncharted territory

Omaha, Neb. -- Updated forecasts from the National Weather Service are suggesting record flows and heavier volume runoff than earlier models predicted, Corps river managers announced today.

"There's no good news," said Jody Farhat, Chief of the Corps' Missouri River Basin Water Management Division in Omaha. "Water releases are forecast to reach 85,000 cubic feet per second (cfs) out of Garrison and Oahe dams because of steady rain and an above-normal mountain snowpack."

Farhat said that the Corps is approaching the top of the gages at all three upper basin dams - Fort Peck, Garrison and Oahe. "Basically, there is little or no storage left in our reservoirs," she said.

For the Bismarck area, Garrison releases of 85,000 cfs will mean reaching a stage of 17.5 to 18 feet, a situation not encountered since Garrison Dam was built in the 1950's. "It moves us into uncharted territory," said Farhat. The previous record release from Garrison Dam was 65,200 cfs in 1975.

The Pierre area below Oahe Dam will fare a little better because of a buyout program for low-lying properties and repair of drainage problems during the past five years. Still, Pierre will see stages not seen since the dam was constructed. The record release from Oahe Dam prior to this event was 59,300 cfs in 1997.

At Gavins Point farther south, Farhat expects flows to reach 75,000 cfs by June 1 - 5,000 cfs above the record set in 1997 - and additional increases to the 80,000 to 85,000 cfs range are likely by early June.

The Corps' latest water releases are based on the newest river forecasts for the Yellowstone River provided by the National Weather Service's Missouri Basin River Forecast Center.

"This is the situation where we are today," said Farhat, "But it's not the worst case scenario because snowmelt and additional heavy rainfall may mean even higher releases."

Snowpack in the reach above Fort Peck hit 141 percent of normal peak, with current conditions at about 108 percent of the normal peak accumulation. The snowpack above Garrison Dam reached 136 percent of normal peak, but is slow to melt, with 132 percent of the normal peak accumulation remaining and actually gaining snow in some of the higher elevations.

For more information, visit the Spring 2011 Flood Response site at www.nwo.usace.army.mil <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514605x844880>> .

Other places to seek information:

- The Missouri River Basin forecast center. (Clicking on the dots will send you to Advance Hydrologic Prediction Service maps for different parts of the basin.) <http://www.crh.noaa.gov/mbrfc/> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514604x326128>>
- The Advanced Hydrologic Prediction Service Maps are found also at <http://water.weather.gov> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514603x842007>> (arrows in the upper left half of the window will help you navigate to other areas).
- This link is for the western half of North Dakota:
<http://water.weather.gov/ahps2/index.php?wfo=bis&view=1,1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514602x323254>> .
- This link shows the western half of South Dakota:
<http://water.weather.gov/ahps2/index.php?wfo=unr&view=1,1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514601x839130>> .
- This is the Missouri River Basin Water Management Page: <http://www.nwd-mr.usace.army.mil/rcc/current.html> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514600x320376>> .
- Another site to check out is: <http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x514599x836249>> .

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NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 3:09 PM
To: Quinn, Kevin R NWO; Farhat, Jody S NWD02
Subject: RE: Reporter calling-wants to know flood outlook between Pickstown and Springfield (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I can get it.

Tom

-----Original Message-----

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 2:39 PM
To: [REDACTED] NWO; Farhat, Jody S NWD02
Subject: Reporter calling-wants to know flood outlook between Pickstown and Springfield (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Reporter Anna Jauhola of the Mitchell Republic called and wants to know flood outlook between Pickstown and Springfield. Can one of you get back to her? Her number is 605-990-6370

Thanks · kq

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 2:55 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED]
R NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED]
NWD02; [REDACTED] NWD02; Wingert, Kevin M NWO; Johnston, Paul T NWO
Subject: FW: Flood Control Act of 1944: Let the river run - latimes.com (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

Tom Graves asked me to share. Any interest in a Corps rebuttal?

John

-----Original Message-----

From: Thomas Graves [mailto:meconsumers@qwest.net]
Sent: Wednesday, May 25, 2011 2:28 PM
To: [REDACTED] NWD
Subject: FW: Flood Control Act of 1944: Let the river run - latimes.com

Would the Corps consider a letter to the editor on this article? Seems to me it's pretty misleading.

Tom

-----Original Message-----

From: Jeff Peters [mailto:jeffp@mrenergy.com]
Sent: Wednesday, May 25, 2011 11:10 AM
To: Thomas P. Graves (meconsumers@qwest.net); Daniel Payton
(wspcmail@gmail.com)
Subject: Flood Control Act of 1944: Let the river run - latimes.com

FYI

<http://www.latimes.com/news/opinion/commentary/la-oe-vandevelder-dams-20110525,0,6823928.story>

Los Angeles Times

By Paul VanDevellder

May 25, 2011

Mississippi flooding: Let the river run

What began on the upper Missouri River in 1951 is playing out this month in the flooding of the lower Mississippi and dozens of communities in its delta.

Widespread flooding

Michael Young builds a walkway to his Tiptonville, Mo., home, surrounded by floodwater. Heavy rains have also swollen rivers and caused widespread flooding in Tennessee, Illinois, Kentucky and Arkansas. (Scott Olson / Getty Images / May 6, 2011)

On a frosty May morning in 1951, a young woman named Louise Holding Eagle jumped into the cab of her pickup truck, waved goodbye to her husband and two toddlers, and drove off to buy groceries in Beulah, N.D., the nearest town, about 35 miles from their farm. Louise decided to make a day of it when she ran into old friends at the store, and finally turned for home at twilight.

"None of us had phones back then, but my husband Matthew was an easygoin' man, and I knew he wouldn't mind if I was late."

Greenhouse gases: Too hot for the courts <<http://www.latimes.com/news/opinion/opinionla/la-ed-warming-20110427,0,1781034.story>> The best remedy for the price of gas <<http://www.latimes.com/news/opinion/commentary/la-oe-gerstenzang-automobile-standard20110414,0,485070.story>> Mojave Desert: Balance the needs of solar power and tortoises <<http://www.latimes.com/news/opinion/opinionla/la-ed-tortoise-20110416,0,7271150.story>> Like oil and water in the gulf <<http://www.latimes.com/news/opinion/commentary/la-oe-stephens-cuba-oil->

20110314,0,7697622.story> Protecting public health and the right to know isn't a '70s fad
<<http://opinion.latimes.com/opinionla/2011/04/blowback-ceqa-protects-publics-health-and-right-to-know.html>> CEQA: That '70s law <<http://www.latimes.com/news/opinion/commentary/la-oe-allen-ceqa-20110330,0,1575229.story>> Paul R. Ehrlich: Saving Earth
<<http://www.latimes.com/news/opinion/commentary/la-oe-morrison-ehrlich-021211,0,413002.column>>

When she reached her driveway in full darkness, she thought she had been daydreaming and made a wrong turn. "I don't know how long I sat there before I realized I was home," Louise recalled for me more than half a century later. "This was our farm, all right! But everything was gone! The house, the chicken coop, the barn, my husband and children!"

Without a word of warning, written or verbal, an Army Corps of Engineers crew had arrived at Louise's farm that afternoon and lifted all the buildings off their foundations, loaded them onto flatbed trucks and relocated them 20 miles away. Her house had to be moved to make way for the first of five massive dams that Congress approved with the passage of the Flood Control Act of 1944. Construction had already begun on the dam near Garrison, N.D., but lawmakers in Washington were still locked in legislative limbo over just what to do with the thousands of people these dams would displace. Finally tiring of bureaucratic delays, the Army Corps of Engineers, an agency with a reputation for being a government unto itself, took matters into its own hands and commenced evacuating the bottomlands.

"The trauma of what we lived through when the dams came, losing our land, identity, livelihood, community, schools, hospitals, churches, you just can't imagine it unless you live through something like that," said Louise in 2003. "A lot of our old people just gave up and died."

What began on the upper Missouri River in 1951 is playing out this month in the flooding of the lower Mississippi and dozens of communities in its delta. This is a man-made disaster, the legacy of an earlier generation of politicians, farmers and ranchers who made a lot of bad (and very expensive) decisions to correct short-term problems on the Missouri River when the best available science – including findings in a 1934 corps report – warned Congress that those solutions would create dire long-term consequences.

The floodwaters released this month from the Morganza Spillway – to relieve pressure on Baton Rouge and New Orleans – will permanently disrupt the lives of thousands of citizens. John Barry <<http://www.latimes.com/topic/entertainment/john-barry-PECLB000363.topic>> , the author of "Rising Tide: the Great Mississippi Flood of 1927 and How It Changed America," has been telling anyone who will listen that the devastation caused by the 2011 flood is a direct consequence of the five huge dams built downstream from Louise Holding Eagle's farm, under what is known as the Pick-Sloan Plan, 60 years ago.

Barry is echoing the fears of river hydrologists who have been predicting this catastrophe since the 1960s. The problem, as they view it, is straightforward. Spilling tens of millions of acre feet of water from dams on the upper Missouri (in years of heavy runoff) into a swollen Mississippi will turn the delta into a small ocean and threaten major urban centers on the lower Mississippi.

Had we not built dams on the Missouri, had we refrained from building homes and cities on Missouri River floodplains, periodic floods would have occurred, but without the catastrophic consequences we see today. Floods would have replenished the river bottoms with alluvial silts (producing bumper crops) and deposited nutrients on the barrier islands in the gulf. Those islands, which once protected New Orleans from violent gulf storms, have vanished in the 50 years since the dams were built. This double-whammy – New Orleans vulnerable to storms from the gulf side, and the lower Mississippi and its delta vulnerable to flooding from the upstream side – can be laid at the feet of Pick-Sloan.

When the Pick-Sloan Plan was approved – projected cost of \$20 billion – it was the most expensive and ambitious public works project ever conceived by Congress. The scheme merged two proposals for managing the million-square-mile Missouri River basin and its "mad elephant of a river," the 2,400-mile-long Missouri. Its features included navigation, hydro-electric, irrigation and recreation. The Pick Plan, advanced by Col. Lewis Pick of the Army Corps of Engineers, was sold to members of Congress with the promise that Indian lands only – no white lands, towns and cities – would be inundated by the dams. The Sloan Plan, drafted by Bureau of Reclamation engineer Glenn Sloan, called for building 100 small dams across the region, and was championed by Secretary of the Interior Harold Ickes, who viewed the corps as a "lawless ... self-serving clique in contempt of the public welfare."

Confounding all skeptics, the two plans were merged into a monolithic project at a meeting in Omaha, Neb., in 1944. When President Franklin D. Roosevelt [signed the bill into law](http://www.latimes.com/topic/politics/franklin-delano-roosevelt-PEPLT005656.topic), the powerful National Farmer's Union president, James Patton, called it "a shameless, loveless, shotgun wedding," and predicted it would turn into another hydraulic disaster built by the Army Corps of Engineers. An editorial at the time in the St. Louis Post-Dispatch agreed, calling it "the most gigantic boondoggle in American history."

While congressmen from the Missouri Valley states were toasting Pick-Sloan, the interim director of the Bureau of Indian Affairs, William Brophy, sat down and wrote a letter to Martin Cross, the chairman of the Mandan, Hidatsa and Arikara nations. Cross' people – the tribes that kept Lewis and Clark and the Corps of Discovery from starvation in the frigid winter of 1804-05 – were the first of 23 bands and tribes of Indians scheduled to lose treaty-protected homelands to Pick-Sloan. After encouraging the chairman to make as many friends as possible on the Senate's Indian committee, he closed by saying, "There is nothing in Washington, D.C., that is easier to swallow, or harder to kill, than a bad idea."

As a career bureaucrat at Interior, Brophy was well-schooled on the Missouri. He was probably one of the few people in Washington who read the corps' 1,245-page report on the river, which was presented to Congress in 1934 by the chief of engineers, Maj. Gen. Lytle Brown. Brown hoped that the five-year investigation would shut the door on politicians' dreams of water projects on the upper Missouri once and for all. Foreshadowing the warnings of 21st century hydrologists, Brown predicted that damming the upper Missouri would make management of the Mississippi – and protection of New Orleans – almost impossible in big runoff years. He cautioned lawmakers that given the underlying geology of the region and the notorious siltation issues associated with the river, only madmen would build dams above Sioux City, Iowa.

But three huge Missouri River floods in 1943 carried away towns, livestock, bridges, farmhouses and sound reasoning, and brought the madmen back to the table. Dry-land farmers were promised a million acres of irrigation if they would back Pick-Sloan. They backed it en masse, but those irrigation projects have never been built. Two dozen tribes were dispersed and relocated, with devastating consequences that they live with to this day. Garrison Dam, large enough to capture five times the annual flow of the Colorado River, is today so compromised by the siltation problems Brown warned about that the dam could be useless within two generations. Water behind those dams – brimful this spring – has only one place to go: downstream into an already swollen Mississippi.

Our legacy to the next generations is a catalogue that bristles with similar narratives. Are we never going to learn that the flotsam of our invincible ignorance will always come back to haunt us on a rising tide?

Paul VanDevellder's book "Savages and Scoundrels: The Untold Story of America's Road to Empire Through Indian Territory," won the 2011 Oregon Book Award.

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 2:49 PM
To: Quinn, Kevin R NWO; Farhat, Jody S NWD02
Subject: River watch #12

Garrison releases were in correct in RW #12. The county EM brought me a copy that said Garrison releases were going from 70,000 to 60,000?

Message sent via my BlackBerry Wireless Device

NWO

From: Wingert, Kevin M NWO
Sent: Wednesday, May 25, 2011 2:45 PM
To: Quinn, Kevin R NWO; Farhat, Jody S NWD02
Subject: Re: News releases (UNCLASSIFIED)

Done. VR, KMW

----- Original Message -----

From: Quinn, Kevin R NWO
To: Wingert, Kevin M NWO; Farhat, Jody S NWD02
Sent: Wed May 25 11:25:21 2011
Subject: FW: News releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

For future news releases/riverwatch Dailies

-----Original Message-----

From: Gabelsberger, Don [<mailto:DGabelsberger@cepc.net>]
Sent: Wednesday, May 25, 2011 1:18 PM
To: Quinn, Kevin R NWO
Subject: News releases

Could you add my name to the E-mail list for News Releases

DGabelsberger@cepc.net

Don Gabelsberger

Plant Engineer

Central Electric Power Cooperative

9321 Highway 100, P.O. Box 127

Chamois, MO 65024

Phone: 573-763-5314

Fax: 573-763-5651

E-mail: dgabelsberger@cepc.net

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 2:39 PM
To: [REDACTED] NWO; Farhat, Jody S NWD02
Subject: Reporter calling-wants to know flood outlook between Pickstown and Springfield
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Reporter Anna Jauhola of the Mitchell Republic called and wants to know flood outlook between Pickstown and Springfield. Can one of you get back to her? Her number is 605-990-6370

Thanks kq

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] LRDOR
Sent: Wednesday, May 25, 2011 2:10 PM
To: DLL-CELRD-WM Lower Ohio-Miss Coordination
Subject: NOTES: Lower Ohio / Mississippi River Coordination Call - 25 May 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Agencies Represented:
National Weather Service:
Hydrometeorological Prediction Center (HPC)
Ohio River Forecast Center (OHRFC)
North Central RFC (NCRFC)
Arkansas Basin RFC (ABRFC)
Lower Mississippi RFC (LMRFC)
Southern Region Headquarters (SR)

US Army Corps of Engineers:
Great Lakes & Ohio River Division (LRD - Cincinnati)
Mississippi Valley Division (MVD)
Memphis District (MVM)
Vicksburg District (MVK)
New Orleans District (MVN)

HPC
Current forecast is on track. A large area of low pressure is spiraling through the central plains today, currently centered in eastern Kansas. Ahead of the low, thunderstorms are overspreading Missouri, Iowa, Illinois, and Indiana this afternoon. Rainfall of 1 to 3 inches with isolated higher totals is expected during the next 48 hours along and north of the Ohio River across Illinois, Indiana, and Ohio. Lighter rainfall amounts are expected south of the Ohio River, including the lower Mississippi valley, with ½ to 1 ½ inches expected.

By Friday this system will exit into the northeastern US, with drier and much warmer conditions expected. Rainfall over the weekend will be limited to isolated evening thunderstorms. Looking ahead into next week, above normal temperatures in the 80s and 90s are expected, with below normal precipitation. Evapotranspiration is expected to increase significantly.

OHRFC:
Flow is increasing at Smithland due to the rainfall. 24 hrs of QPF yields a crest of 400kcfs at Smithland on May 30. The full 5 Day QPF increases slightly to 420 kcfs, but pushes the crest to June 1. Highest rainfall impacts will be seen in the next 24 hours.

NCRFC:
Storms overnight in MO/IA/IL produced 2-3 inch rainfalls. This water, combined with today's QPF will produce a significant rise at Chester over the next 7 days. Flows today are at 500 kcfs, and are expected to remain steady for two days, then rise to 630 kcfs on June 2. Adding in 5 Days of QPF bumps the peak flow up slightly to 650 kcfs on June 2.

ABRFC:
Flow today is 120 kcfs at Pine Bluff, expected to peak at 170 tomorrow evening. No significant impact from 5 Day QPF.

LMRFC:

Model runs using 5 Day QPF flow inputs yielded crest forecasts on the lower Ohio and near the confluence about 1' lower than yesterday's simulations, primarily due to lower Ohio River flows. LMRFC will not change crest forecasts on the upper end today due to the ongoing rainfall. However, crests will likely be lowered tomorrow if QPF forecasts verify. On the Mississippi above the confluence, no significant changes are expected, as most of the rain is already on the ground. Cape Girardeau crest will remain at 40 ft on 6/3.

On the lower Miss, 1 ft/dy falls continue from Osceola to Helena, with 0.4 to 0.6 ft/day falls from Arkansas City to Vicksburg. The crest on the mid-Mississippi River washes out below Helena, with no rises expected downstream to New Orleans.

On the Atchafalaya, Simmesport, Melville, and Krotz Springs are all cresting. Minor rises continue at Butte LaRose. Crest forecasts are unchanged all the way down to Morgan City.

On the White River, secondary rises are expected due to discharges at Bull Shoals; however, Claridon does not turn around.

Rainfall on the Red River is not enough to make water levels in the backwater areas begin rising again.

MVM:
Today's flows at Helena 1549 kcfs, Memphis 1352 kcfs. They expect Cairo to fall to between 44 and 40 feet June 9 - 11th. This would stop flow into the upper crevasse. Flow will cease through the lower inflow/outflow crevasse at a New Madrid stage between 25 and 30, expected June 11 - 15. The upper crevasse is 9000' wide; the lower crevasse is 4500 feet, however 1000 never conveyed water.

MVK:
Nothing to add.

MVN:
Morganza closed 1 gate yesterday (17 to 16 total). 2 additional gages (for a total of 14) are scheduled for today. Flow rate today through the structure is 160 kcfs, down 20 kcfs today. Discharge computations were revised slightly higher today based on measurement data. Bonne Carre flow is 293 kcfs today. Red River Landing flow is 1555 kcfs today. 627 kcfs is passing through Old River Complex, with a Simmesport flow of 690 kcfs.

Question about closing Bonne Carre bays over the next few days? MVN is doing an analysis on this today; bay closure will not happen today, but there may be the possibility of cutting back a little over the next few days. The neap tidal cycle - and the spring tide next week - will constrain closures due to freeboard issues. Ideally, MVN would like to get releases closer to 250 kcfs. Will continue to coordinate with MVD.

MVD:
Working with districts to develop plans for closing floodways. Still trying to figure out how to close Birds Point.

SWD:
Not available.

Next Call:
Thursday May 26, 2011 at 2:00pm Eastern / 1:00pm Central.

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 2:10 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWO
Cc: Schenk, Kathryn M NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Subject: Top of Fort Peck Spillway Gates (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

I'm sure most of you know this information but I want to make sure. The top of the Spillway Gates are 2250.5 ft even though top of Exclusive is 2250.0 ft. In 1997 we went to 2250.31 and did not over top the gates. Also, in 1975 the Spillway Gates were overtopped when the reservoir elevation rose to 2251.6 ft with 35,000 cfs being released through the dam and spillway.

[REDACTED]
U.S. Army Corps of Engineers
Operations Project Manager
Fort Peck Project
Fort Peck, Montana 59223
PH: [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Tipton, Robert A Col NWD
Sent: Wednesday, May 25, 2011 1:55 PM
To: Anderson, G Witt NWD; [REDACTED] NWD; Blechinger, Erik T NWO; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] HQ; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] HQ@NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] HQ@NWD; [REDACTED] NWD; [REDACTED] ULA@NWD; [REDACTED] HQ; [REDACTED] ACE-IT@NWD; [REDACTED] HQ02; [REDACTED] HQ02
Cc: Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; McMahon, John R BG NWD; Caldwell, David A LTC NWW; Hofmann, Anthony J COL NWK; Miles, Steven R COL NWP; Ruch, Robert J COL NWO; Wright, Anthony COL NWS; Acheson, William E LTC NWS; Capps, Stephan A LTC NWP; [REDACTED] NWK; Hains, Decker B LTC NWW; Jordano, James J LTC NWO
Subject: NWD Information Guidance

NWD Chiefs,

As you know, we have multiple events going on within both basins right now. Significant (historic flooding) on the upper Missouri along with flooding in all three of the Columbia River basins and a continuing wet weather pattern and unprecedented snow packs means that we will very focused on contingency operations throughout our AOR for the foreseeable future.

Add to that, NWK/NWD has picked up the mission for the Tornado response in Joplin Missouri and will most likely have flood issues within a few weeks as the rising Missouri makes it way south.

With all of that said, we need to ensure that our Division Staff remains situationally aware - but that we also apply the appropriate discipline and don't get out in front of the CG or the Districts concerning actions that we are taking in support of these efforts.

Currently Division Chiefs get a morning report that is FOUO and not releasable outside the Division except through coordination with the RCO. You also get a very good rundown of articles written by the public from Clare Perry each day.

In addition to these, I have asked our PAO Chief, Clare Perry to work with the District PAOs to ensure we develop a system of sharing all NWD (both HQ and District) final and approved press releases with the Division Chiefs. I would ask that you use these approved press releases as a way to keep your workforce up to date on key actions ongoing. Additionally, these press releases give you the appropriate language you can use if asked about ongoing operations vice the morning report or any other official meeting we have ongoing.

If you hear of any proposed water releases or potential actions we may be taken or other information associated with these contingency operations - consider it not releasable to anyone unless you see it reflected in an approved press release or you have coordinated it through the appropriate division leadership.

Thanks for all you do and will continue to do to set the conditions for our might districts success in these operations!

RT

Robert A. Tipton, P.E.
COL, EN
Deputy Commander

Northwestern Division
U.S. Army Corps of Engineers

503-808-3701

NWO

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 1:38 PM
To: Williamson, Eileen L NWO; Farmer, Monique L NWO; Farhat, Jody S NWD02; [REDACTED]
Subject: RE: Riverwatch Daily – Garrison and Oahe Dams (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This was an editing error which has been corrected. The "increasing to 60,000 cfs Monday afternoon" has been struck. Thanks. kq

-----Original Message-----

From: Williamson, Eileen L NWO
Sent: Wednesday, May 25, 2011 1:28 PM
To: Quinn, Kevin R NWO; Farmer, Monique L NWO; Farhat, Jody S NWD02
Subject: Fw: Riverwatch Daily – Garrison and Oahe Dams (UNCLASSIFIED)

FYI

----- Original Message -----

From: [REDACTED] NWO
To: Williamson, Eileen L NWO
Sent: Wed May 25 11:21:41 2011
Subject: RE: Riverwatch Daily – Garrison and Oahe Dams (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

There is something wrong with this line it says increasing to a number that is lower. Not sure who provided you with the info for this.

Current Reservoir Release – 70,000 cfs, increasing to 60,000 cfs Monday afternoon.

[REDACTED]
Chief Management Support Section
Operations Division - Omaha District
[REDACTED]

-----Original Message-----

From: Williamson, Eileen L NWO
Sent: Wednesday, May 25, 2011 1:17 PM
To: [REDACTED] NWO
Subject: Re: Riverwatch Daily – Garrison and Oahe Dams (UNCLASSIFIED)

I posted this on Facebook last night. Do you need something for it?

From: [REDACTED] NWO
To: Williamson, Eileen L NWO
Sent: Wed May 25 08:24:01 2011
Subject: Riverwatch Daily – Garrison and Oahe Dams (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Riverwatch Daily - Garrison and Oahe Dams

Update #12

OMAHA, Neb. --The situation in the Missouri River basin continues to deteriorate due to heavy rain in eastern Montana and western North Dakota, necessitating higher releases from Garrison Dam in Riverdale, N.D. and Oahe Dam near Pierre, S.D. to evacuate stored flood waters.

In expectation of continued high runoff, the U.S. Army Corps of Engineers will release a daily bulletin detailing releases and levels for both dams. Conditions in the Missouri River basin are changing rapidly, so forecasted releases shown below are subject to change with little notice. Below are the May 24, 2011 statistics for the two dams.

Daily Information Update

Garrison Dam and Lake Sakakawea:

- Midnight reservoir level - 1850.4 feet mean sea level
- Yesterday's Reservoir Inflow - 113,000 cubic feet per second (cfs)
- Current Reservoir Release - 70,000 cfs, increasing to 60,000 cfs Monday afternoon.

This does not read right, assume 60,000 should be 85,000

Current Reservoir Release - 70,000 cfs, increasing to 60,000 cfs Monday afternoon.

Chief Management Support Section

Operations Division - Omaha District

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 1:25 PM
To: Wingert, Kevin M NWO; Farhat, Jody S NWD02
Subject: FW: News releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

For future news releases/riverwatch Dailies

-----Original Message-----

From: Gabelsberger, Don [<mailto:DGabelsberger@cepc.net>]
Sent: Wednesday, May 25, 2011 1:18 PM
To: Quinn, Kevin R NWO
Subject: News releases

Could you add my name to the E-mail list for News Releases

DGabelsberger@cepc.net

Don Gabelsberger

Plant Engineer

Central Electric Power Cooperative

9321 Highway 100, P.O. Box 127

Chamois, MO 65024

Phone: 573-763-5314

Fax: 573-763-5651

E-mail: dgabelsberger@cepc.net

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: McMahon, John R BG NWD
Sent: Wednesday, May 25, 2011 12:47 PM
To: Hofmann, Anthony J COL NWK; Ruch, Robert J COL NWO
Cc: Anderson, G Witt NWD; Blechinger, Erik T NWO; Farhat, Jody S NWD02; Tipton, Robert A Col NWD; [REDACTED] NWD
Subject: Below Gavins Point System Analysis

Cdrs:

Need to get a sense for what these record flows/snowmelts mean to the MR system below GP in the next week or so. Already getting calls in this regard as I know you are, too. Will chat with Gov Nixon and Cong Lukemeyer today and provide feedback...thanks.

Vr/John McMahon

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 12:35 PM
To: 'Felchle, Timothy (Tim) H'
Cc: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED]
I NWO; Bertino, John J Jr NWO; 'Patrick Erger'; 'Aycock, Gordon L'; [REDACTED]
NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO, [REDACTED]
[REDACTED] NWO
Subject: Letter requesting storage at Tiber (UNCLASSIFIED)
Attachments: Flood control storage at Tiber May 2011.pdf

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

Please find our official request for additional flood control storage at Tiber Reservoir attached.

We appreciate your cooperation in keeping Tiber releases as low as possible from now until the snowmelt runoff inflows have peaked.

[REDACTED]
Chief, Water Control and Water Quality Section U.S. Army Corps of Engineers, Omaha District
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NORTHWESTERN DIVISION
1616 CAPITOL AVENUE
OMAHA NE 68102

CENWD-PDR

24 May 2011

MEMORANDUM FOR Commander, Omaha District (CENWO-ED-HA)

SUBJECT: Request for Replacement Flood Control Storage at Tiber Reservoir
(USBR, Section 7)

1. Request that your office initiate the process to use flood control storage space at Tiber Reservoir, a U.S. Bureau of Reclamation Section 7 project, to benefit Missouri River System operations.
2. This process is outlined in both the Tiber Water Control Manual, as well as the Missouri River Mainstem Master Water Control Manual. Request that releases from Tiber be kept at minimum levels, which we understand to be approximately 400 cfs, until 30 June 2011, or until the pool has risen to elevation 3008 feet msl, whichever occurs first.
3. If you have any questions concerning this reply, please contact me at (402) 996-3840, or Kevin Grode of my staff at (402) 996-3870.

FOR THE COMMANDER:

JODY S. FARHAT, P.E.
Chief, Missouri River Basin Water
Management Division

CF:
CENWD-PD/Anderson
CENWD-RBT/Bhamidipaty

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 12:34 PM
To: Ruch, Robert J COL NWO
Cc: Schenk, Kathryn M NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; Farhat, Jody S NWD02
Subject: FW: Spillway (UNCLASSIFIED)
Attachments: Spillway 5-25-11 017.jpg; Spillway 5-25-11 019.jpg; Spillway 5-25-11 016.jpg

Classification: UNCLASSIFIED

Caveats: NONE

Sir:

Attached are some great pictures of our Spillway Gates here at Fort Peck taken today. Notice the Spillway Floor in the background of one of the photos. We are putting our Spillway Stoplogs in their proper storage locations today in case your wondering what we are doing. These were just refurbished and returned this winter. They probably won't be used this year. Please pass on to anyone that might be interested.

John

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 11:23 AM
To: DLL-CENWO-OD-FP
Subject: Spillway (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

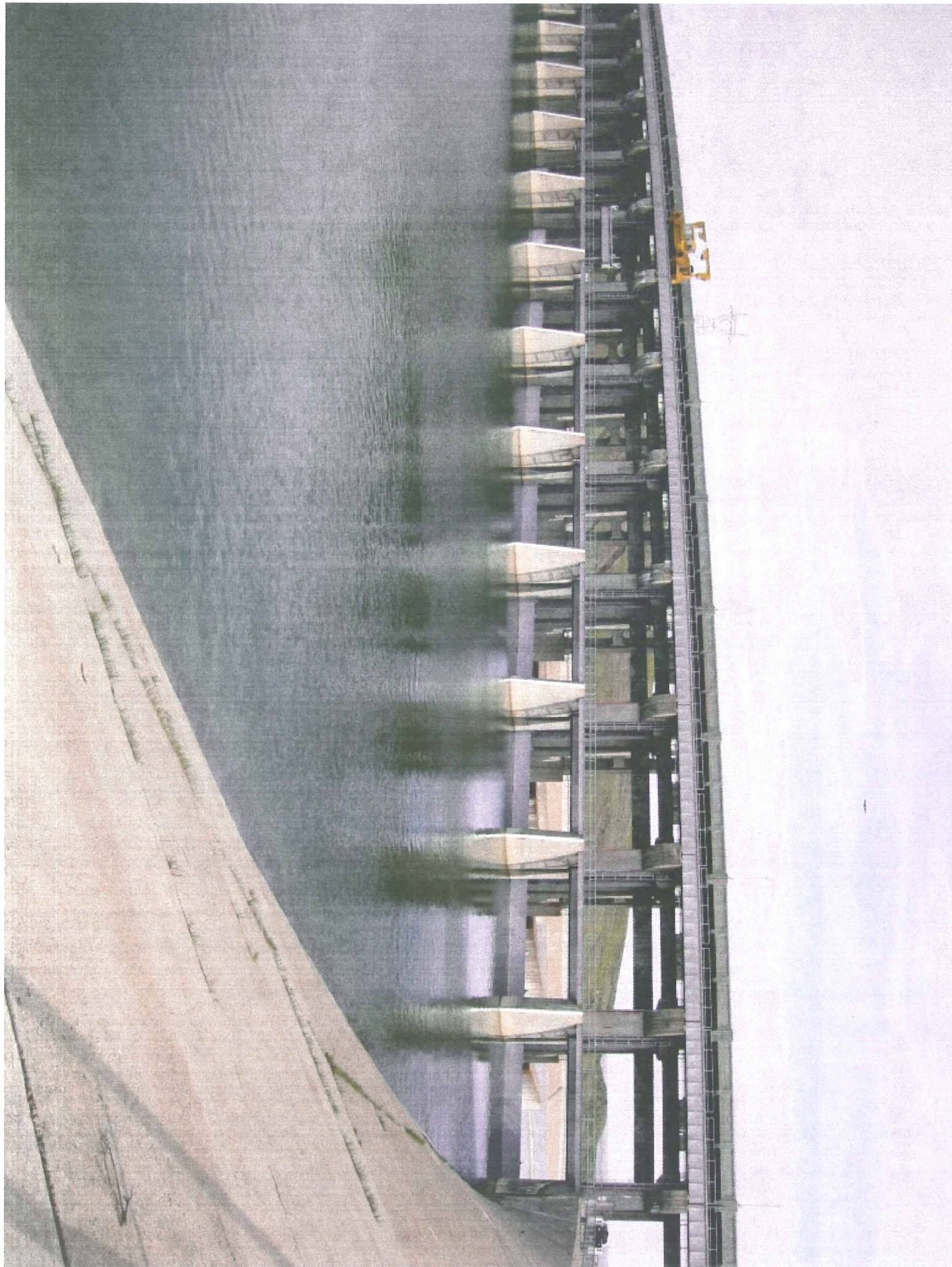
If you haven't made it out to the spillway recently here are a couple pictures of the water at the gates.

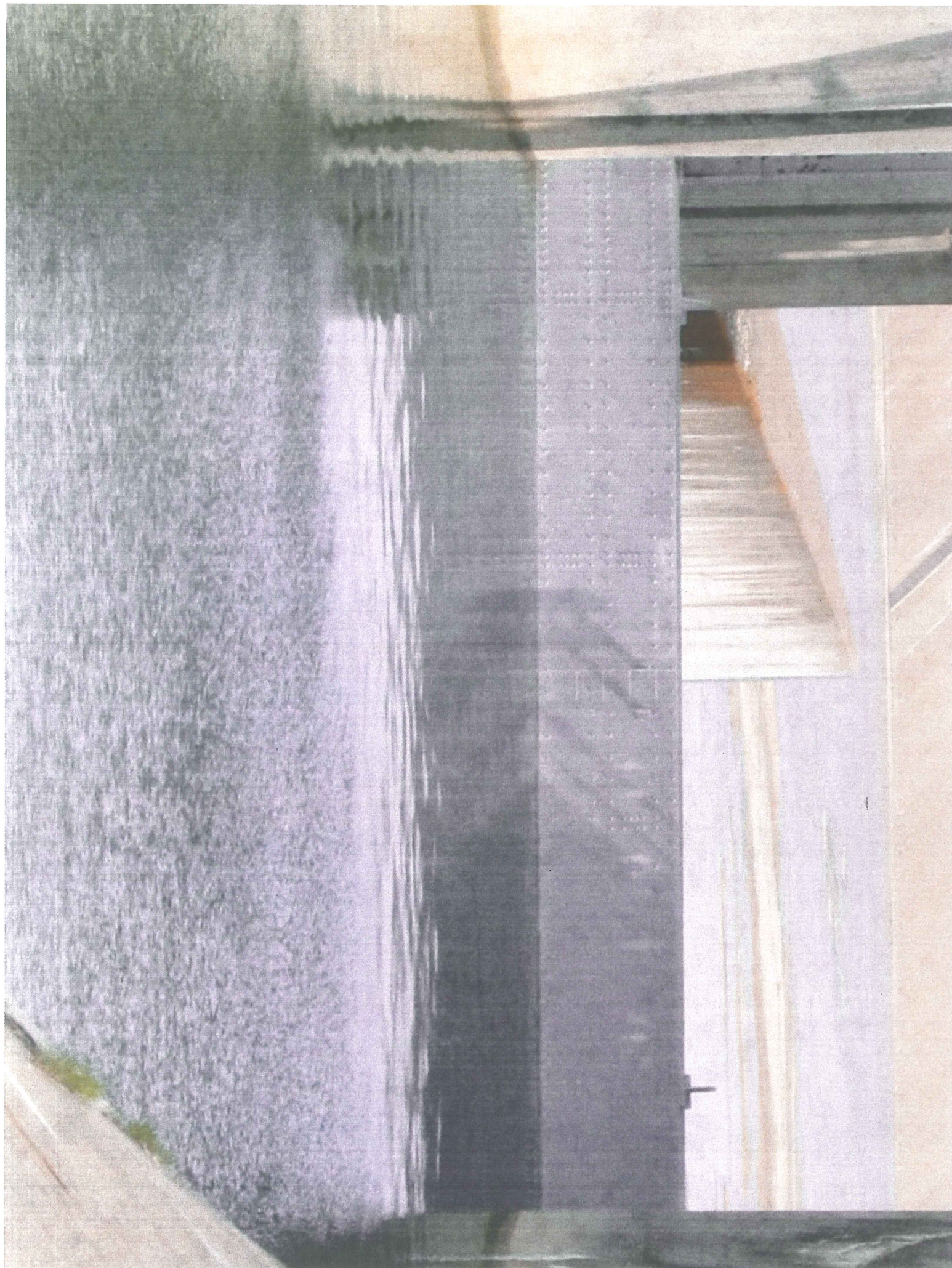
Classification: UNCLASSIFIED

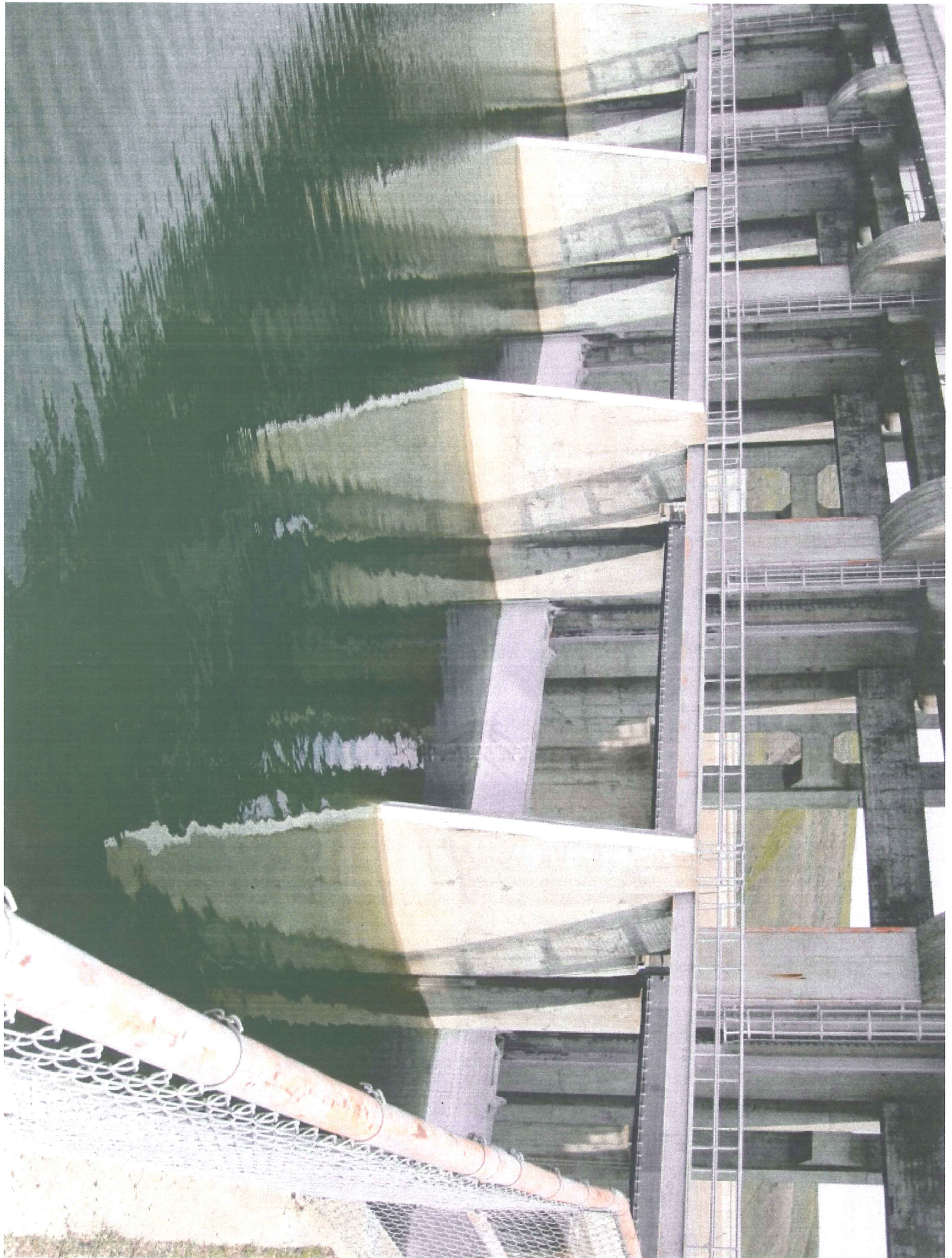
Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE







[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 12:25 PM
To: Farhat, Jody S NWD02; [REDACTED] NWD02
Subject: Question

Need to know the right answer for "how long" at the 85,000 cfs levels? I realize "it depends"

Message sent via my BlackBerry Wireless Device

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Wednesday, May 25, 2011 11:29 AM
To: Quinn, Kevin R NWO
Cc: Farhat, Jody S NWD02
Subject: Missouri River (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

We're both currently participating in the District CMT briefing.

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED] (fax)

-----Original Message-----

From: Quinn, Kevin R NWO
Sent: Wednesday, May 25, 2011 11:14 AM
To: Farhat, Jody S NWD02; [REDACTED] NWD02
Subject: FW: Re; Missouri River (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Can one of you do this interview. Please let me know soonest. Thank you. kq

-----Original Message-----

From: Bill Peterson [<mailto:billp@regionalradio.com>]
Sent: Wednesday, May 25, 2011 9:05 AM
To: Quinn, Kevin R NWO
Subject: Re; Missouri River

Mr Quinn; would you or someone from your staff be available to do a radio interview with KWIX/KRES/KIRK in Moberly this morning at your convenience?

Our listeners in downstream Missouri are very interested in what is coming at them from the folks, upstream.

Would sometime after 11am work for you, or early afternoon?

Thanks for your assistance. Bill Peterson KWIX/KRES/KIRK
Radio Moberly, Mo.
If you want to call me, its 660-263-1500 or 263-1600.

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 11:27 AM
To: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02;
Henry_Maddux@fws.gov; Carol_Aron@fws.gov; [REDACTED] NWK; [REDACTED]
NWO; [REDACTED] NWO; mike_george@fws.gov; Wayne_NelsonStastny@fws.gov
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
[REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
[REDACTED] NWO; [REDACTED] NWO
Subject: Tern & Plover Monitoring Summary (UNCLASSIFIED)
Attachments: 2011-05-25.docx

Classification: UNCLASSIFIED
Caveats: NONE

Attached is a summary of tern and plover monitoring surveys on the Missouri River as of May 25, 2011.

Greg

Classification: UNCLASSIFIED
Caveats: NONE

Summary of Surveys as of May 25, 2011

Lake Sakakawea: 11 piping plover nests have been found, all except one are located in parking lots of recreation areas. 2 nests are listed at risk.

Garrison River: 2 piping plover nests were found on a sandbar at RM 1380. Both nests are listed at risk and are not expected to survive the increased releases out of Garrison Dam.

Lake Oahe: 5 piping plover nests have been found. 1 nest is listed at risk.

Fort Randall River: This segment was surveyed on May 23, 2011. All historic nesting sandbars were inundated.

Lewis & Clark Lake

RM 842.2: The contractor reported one nest with one egg on May 24, 2011. Species was not determined by the contractor. The contractor began shutting down dredging operations on May 25, 2011 with plans to resume dredging this fall.

RM 826.5: 17 piping plover and 2 snowy plover nests have been found. 13 piping plover nests are active. Virginia Tech researchers reported egg predation by crows at the complex. USDA Wildlife Services personnel are on site and are attempting to eliminate the crows. The mink predator fence has been completed on the North Island.

Gavins Point River: 5 piping plover nests were found at 3 sites this week. All were listed at risk.

Total: 40 piping plover nests, 36 piping plover nests active. No least tern nests found, least terns were observed on Lewis & Clark Lake and the Gavins Point River.

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 11:04 AM
To: [REDACTED] NWD02
Cc: Farhat, Jody S NWD02
Subject: RE: Rating Curves (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

I found that we have some from measured data points. Too bad they only go to 40k.

We are running the current predicted flow scenario through our new RAS model of the Gavins to Randall reach to determine predicted stages in the reach. Will cc you and Jody when we send info to the project offices later today.

Paul

-----Original Message-----

From: [REDACTED] NWD02
Sent: Wednesday, May 25, 2011 10:40 AM
To: [REDACTED] NWO
Subject: RE: Rating Curves (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

I am not aware of any existing rating curves.

Joel

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 10:04 AM
To: [REDACTED] NWD02
Subject: Rating Curves (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Where can I get rating curves for the Verdel and Springfield gages on the Missouri?

[REDACTED]
Hydraulic Engineer
CENWO-ED-HF
Omaha District, USACE
[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: Tipton, Robert A Col NWD
Sent: Wednesday, May 25, 2011 10:39 AM
To: McMahon, John R BG NWD
Cc: Anderson, G Witt NWD; [REDACTED] NWD; [REDACTED] NWD; Caldwell, David A LTC NWW; Hofmann, Anthony J COL NWK; Miles, Steven R COL NWP; Ruch, Robert J COL NWO; Wright, Anthony COL NWS; [REDACTED] NWD; Blechinger, Erik T NWO; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] HQ@NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] HQ@NWD; [REDACTED] NWD; [REDACTED] ULA@NWD; [REDACTED] HQ; [REDACTED] ACE-IT@NWD
Subject: NWD Sitmap 25 May
Attachments: NWD SITMAP 25 MAY.pdf

Sir,

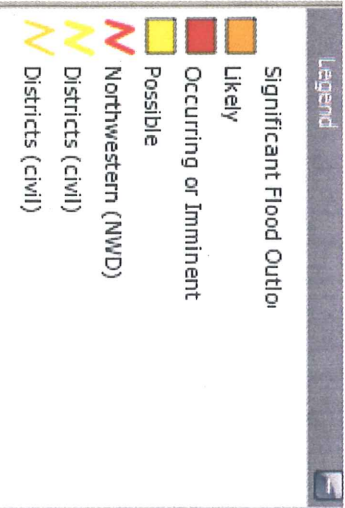
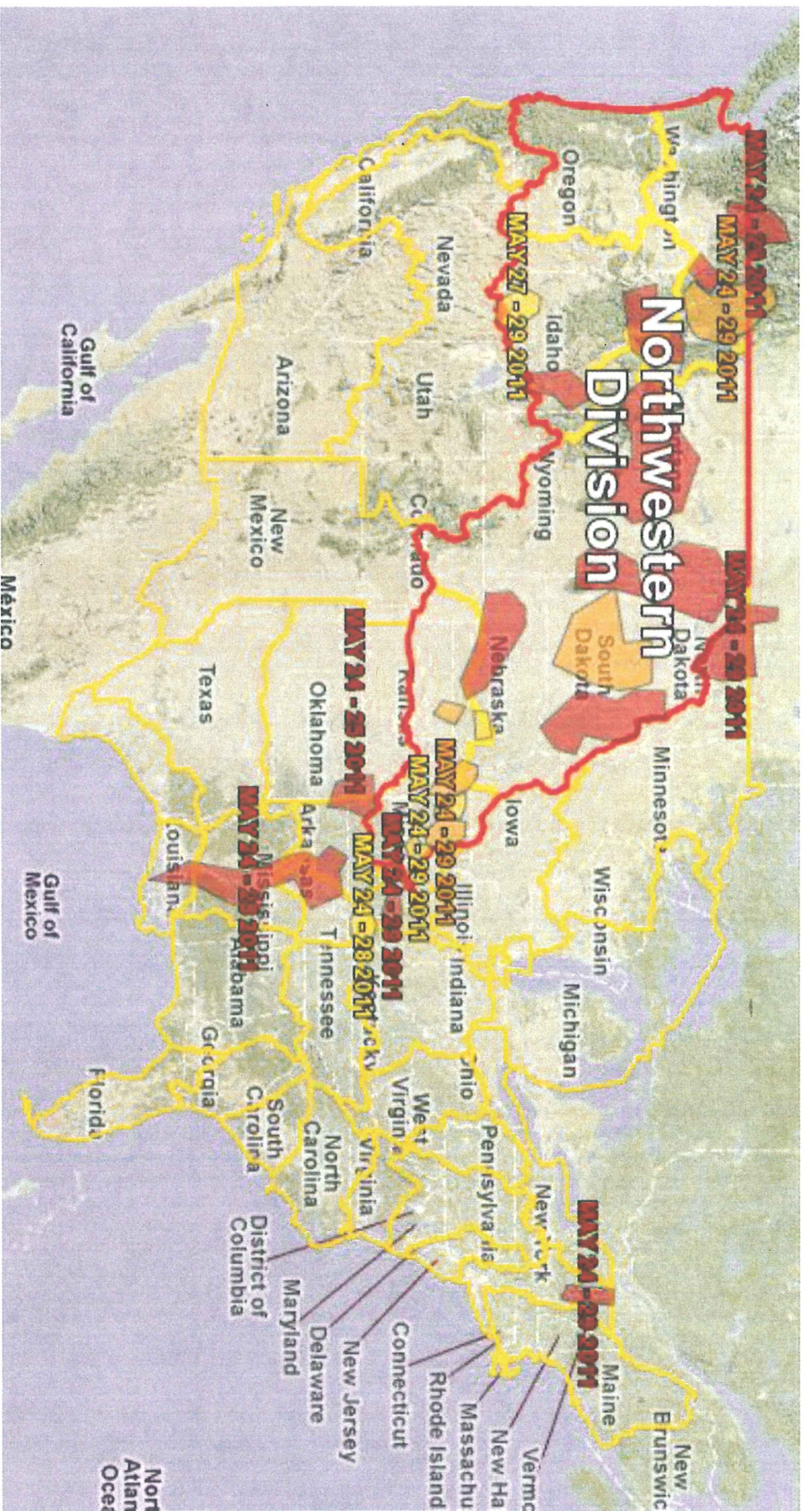
Took these screen shots off of our NWD GIS viewer today and thought I would send them to you. They show the flooding across the country and you get a good feeling where all the action is across USACE....

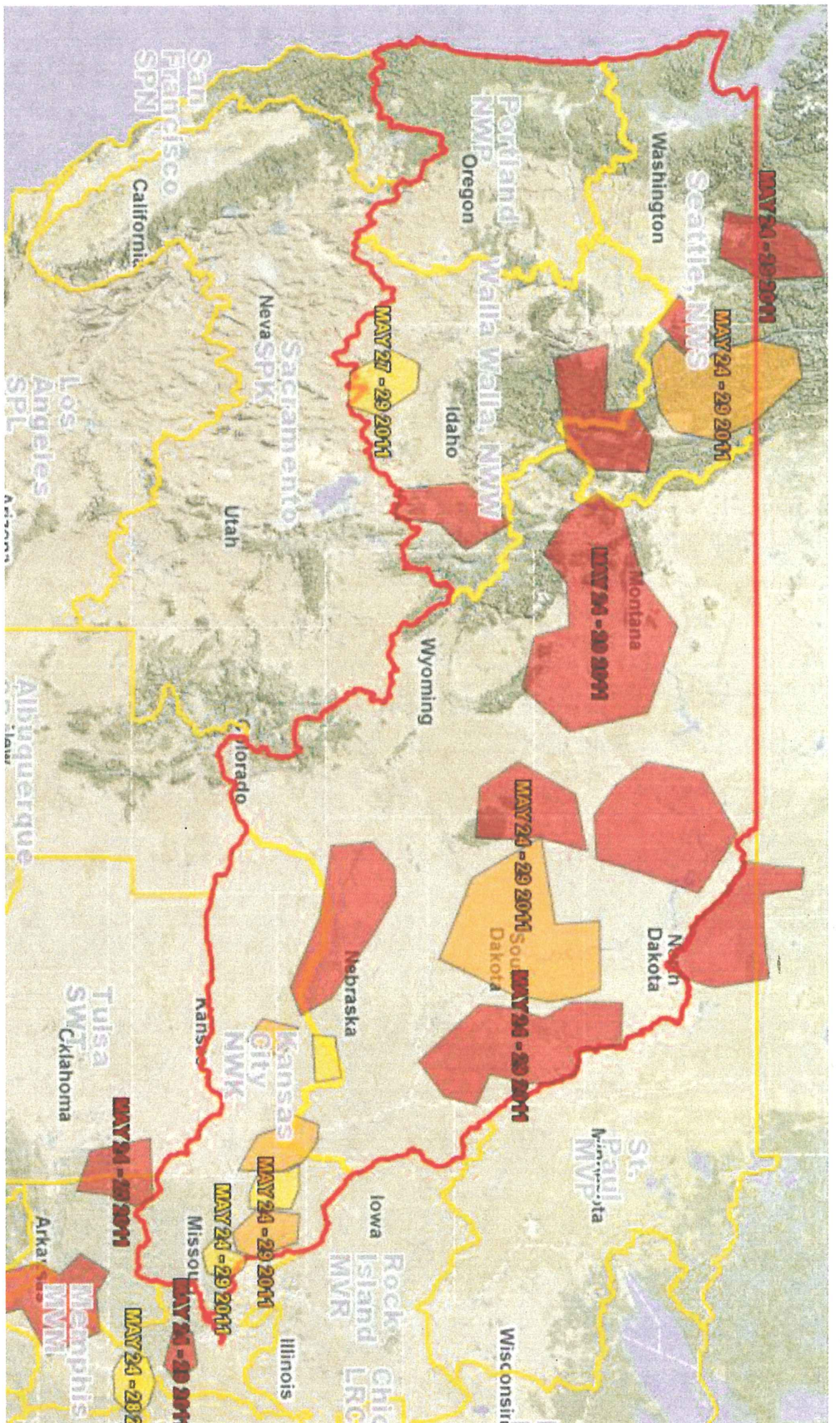
Of course this doesn't include the tornado cleanup in Missouri and Alabama...

VR/Bob

Robert A. Tipton, P.E.
COL, EN
Deputy Commander
Northwestern Division
U.S. Army Corps of Engineers

503-808-3701





- Legend
- Significant Flood Outflow
 - Likely
 - Occurring or Imminent
 - Possible
 - Northwestern (NWD)
 - Districts (civil)
 - Districts (civil)

NWO

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 10:21 AM
To: Quinn, Kevin R NWO; Farhat, Jody S NWD02
Subject: RE: More media calls-- (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Kevin - I talked to Chris last night and Art this morning.
Also talked to Matthew Leaf from KTNC in Falls City, NE this morning.
Attempted to return calls to Heather Merger of Pierre Capitol Journal and Todd McDonald of Fargo Prairie Public radio but had to leave message.

-----Original Message-----

From: Quinn, Kevin R NWO
Sent: Tuesday, May 24, 2011 2:52 PM
To: Farhat, Jody S NWD02
Subject: More media calls-- (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

JODY - before I outline media calls (below) I want to tell you that I think we can reduce future calls by adding some information to Clare's draft news release--at the end of her/your revised draft, we can tell folks how they can look up river gage info, et al. on the internet. If you are ok with that, I'll have Eileen draft something to add into today's news release. The sooner we get it out the better.

MEDIA CALLS INCLUDE:

1) Art Hovey 402-473-7223

Lincoln Journal Star

On Average, what % of Mississippi River flow is coming from Mo River?

These may be more of an NWS question versus Corps.

How will increased releases on Mo River affect Miss River?

How long before Sakakawea Releases will be seen in Omaha and what is being forecast in that area?

2) Chris Bjorke Bismarck Tribune 701-250-8261

General questions about releases and river flows

Classification: UNCLASSIFIED

NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 9:57 AM
To: [REDACTED] NWD; [REDACTED] NWK; [REDACTED] NWP;
[REDACTED] NWS; [REDACTED] NWW; [REDACTED] NWD
Cc: [REDACTED] NWD; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED]
NWD; [REDACTED] NWK; [REDACTED] NWS; Bertino, John J Jr NWO
Subject: RE: E&C Assistance to Omaha District (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Team,

Thank for your assistance in our need for help. Please informally send your volunteer lists to me, but the official request is being routed through RCO-DCO channels and we will have to work through those channels.

[REDACTED]
[REDACTED]
Chief, Business Technical Division
Northwestern Division, U.S. Army Corps of Engineers
Phone: [REDACTED]
Cell: [REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWD
Sent: Tuesday, May 24, 2011 1:54 PM
To: [REDACTED] NWK; [REDACTED] NWP; [REDACTED] NWS; [REDACTED]
NWW; [REDACTED] NWD
Cc: [REDACTED] NWD; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED] NWD;
[REDACTED] NWK; [REDACTED] NWS; Bertino, John J Jr NWO
Subject: FW: E&C Assistance to Omaha District (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Team,

Conditions in Upper Missouri River Basin are ripe for record pool levels and discharges downstream. The situation is serious enough, General McMahon has canceled his planned trip to Dallas and he is going to NWO AOR and will be there through next Monday. Omaha District is in dire need of E & C Assistance in a couple of days. The following are the disciplines needed:

H&H---4 for field activities
Geotech---4 field activities
Dam Surveillance

If the four Districts other than NWO come up with one each of the above requirements, it helps Omaha tremendously. It is COREC's responsibility to provide the required support immediately and to walk the talk that we indeed take regional work seriously. These assignments could start right away and may last about 3-4 weeks.

Please provide your nominees to me by COB tomorrow, 25 May and we can discuss further on Thursday COREC call.

[REDACTED]: If you could provide any assistance, it will be appreciated.

[REDACTED]

[REDACTED]

Chief, Business Technical Division
Northwestern Division, U.S. Army Corps of Engineers
Phone: [REDACTED]
Cell: [REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: Bertino, John J Jr NWO
Sent: Tuesday, May 24, 2011 11:42 AM
To: [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD
Subject:

Guys,

Things have gone from bad to worse. I have been asked by my commander to ask for help. I need 4 H&H folks to conduct field activities to help establish levee heights and make decisions in the field. I also need 4 Geotechs to help do similar work as H&H folks. In addition we may need help to do dam surveillance at Garrison and Oahe Dams. For planning purposes I would plan on 3 to 4 weeks. It may be shorter, it may be more.

I also would like Brian K to come help me with coordination efforts between Engineering and Readiness Branch.

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Engemann, Daniel [Dan.Engemann@mail.house.gov]
Sent: Wednesday, May 25, 2011 9:56 AM
To: Farhat, Jody S NWD02
Subject: Call Request with Congressman Luetkemeyer

Importance: High

Jody,

We would like to request a conference call with Gen. McMahon, yourself, and Congressman Luetkemeyer about flooding impacts to our district due to high releases from the mainstem reservoirs. I know you are extremely busy, but how soon can we get this scheduled?

Thank you,

Dan Engemann

Deputy District Director

Congressman Blaine Luetkemeyer (MO-09)

516 Jefferson Street

Washington, Missouri 63090

Phone: 636-239-2276

Fax: 636-239-0478

Mobile: 573-208-0507

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 9:54 AM
To: Schenk, Kathryn M NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
[REDACTED] NWO; Farhat, Jody S NWD02
Subject: FW: Spillway Bank erosion (UNCLASSIFIED)
Attachments: Spillway 5-24-11 001.jpg; Spillway 5-24-11 002.jpg; Spillway 5-24-11 003.jpg; Spillway 5-24-11 004.jpg; Spillway 5-24-11 005.jpg; Spillway 5-24-11 006.jpg; Spillway 5-24-11 007.jpg; Spillway 5-24-11 008.jpg; Spillway 5-24-11 009.jpg; Spillway 5-24-11 010.jpg

Classification: UNCLASSIFIED
Caveats: NONE

All:

Attached are pictures of our spillway Stilling Basin. You can see some of the new erosion which isn't that much. The spillway performed well. We will keep our eye on this when we resume the spill again. Not problems noticed yet.

John

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 8:26 AM
To: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Subject: Spillway Bank erosion (UNCLASSIFIED)

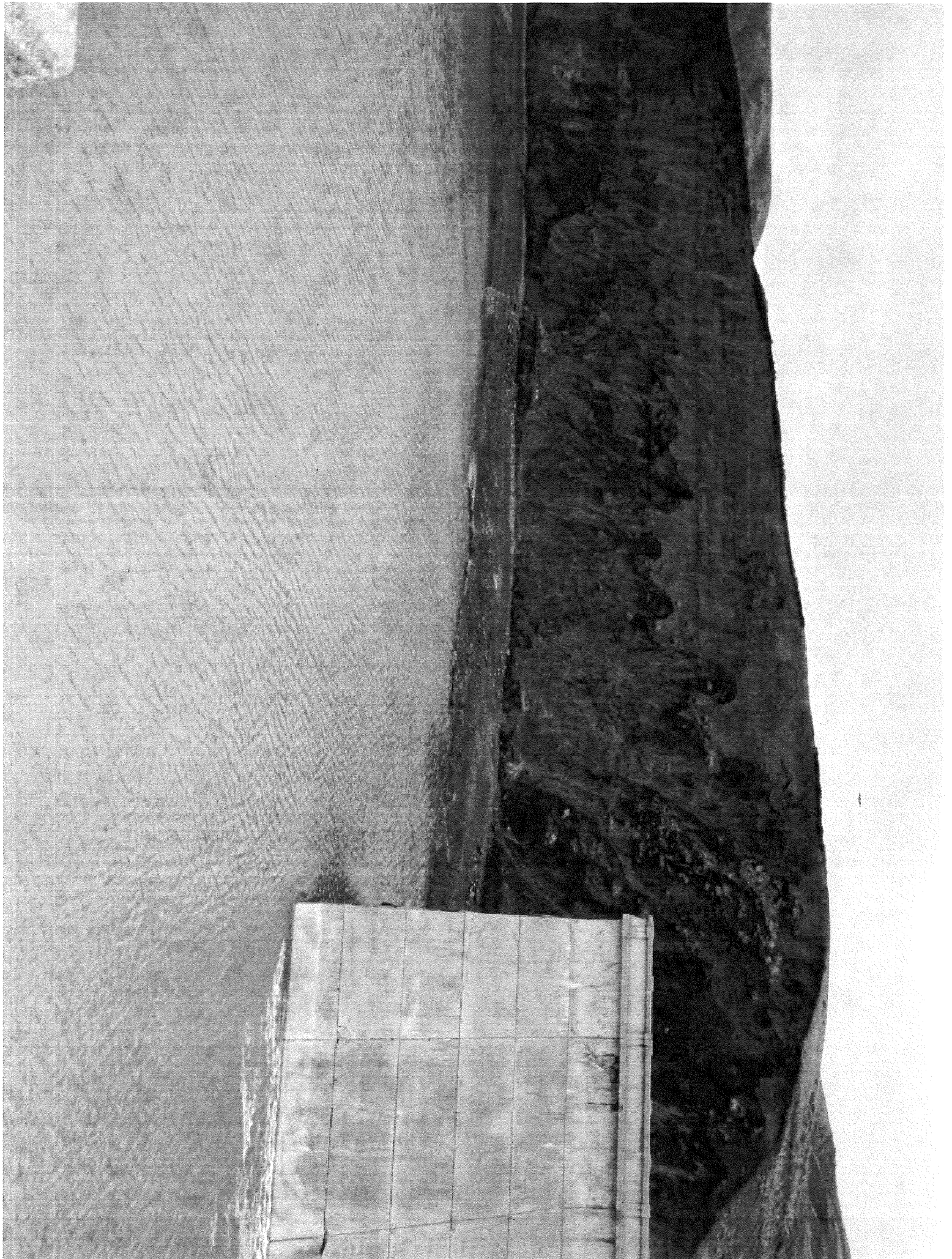
Classification: UNCLASSIFIED
Caveats: NONE

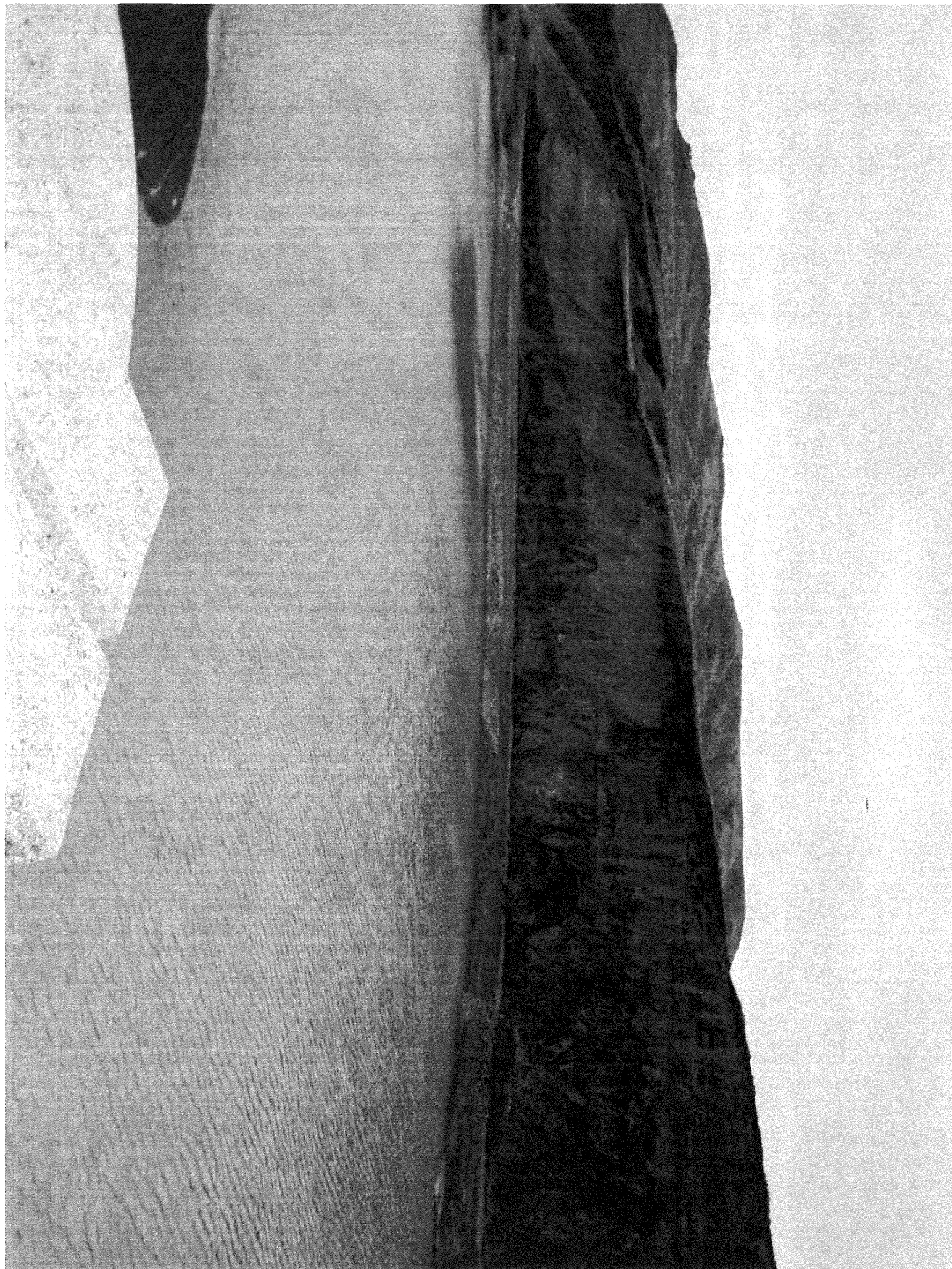
All photos were taken from the west wing wall. I'll try to get some from the east today.

Dale

Classification: UNCLASSIFIED
Caveats: NONE

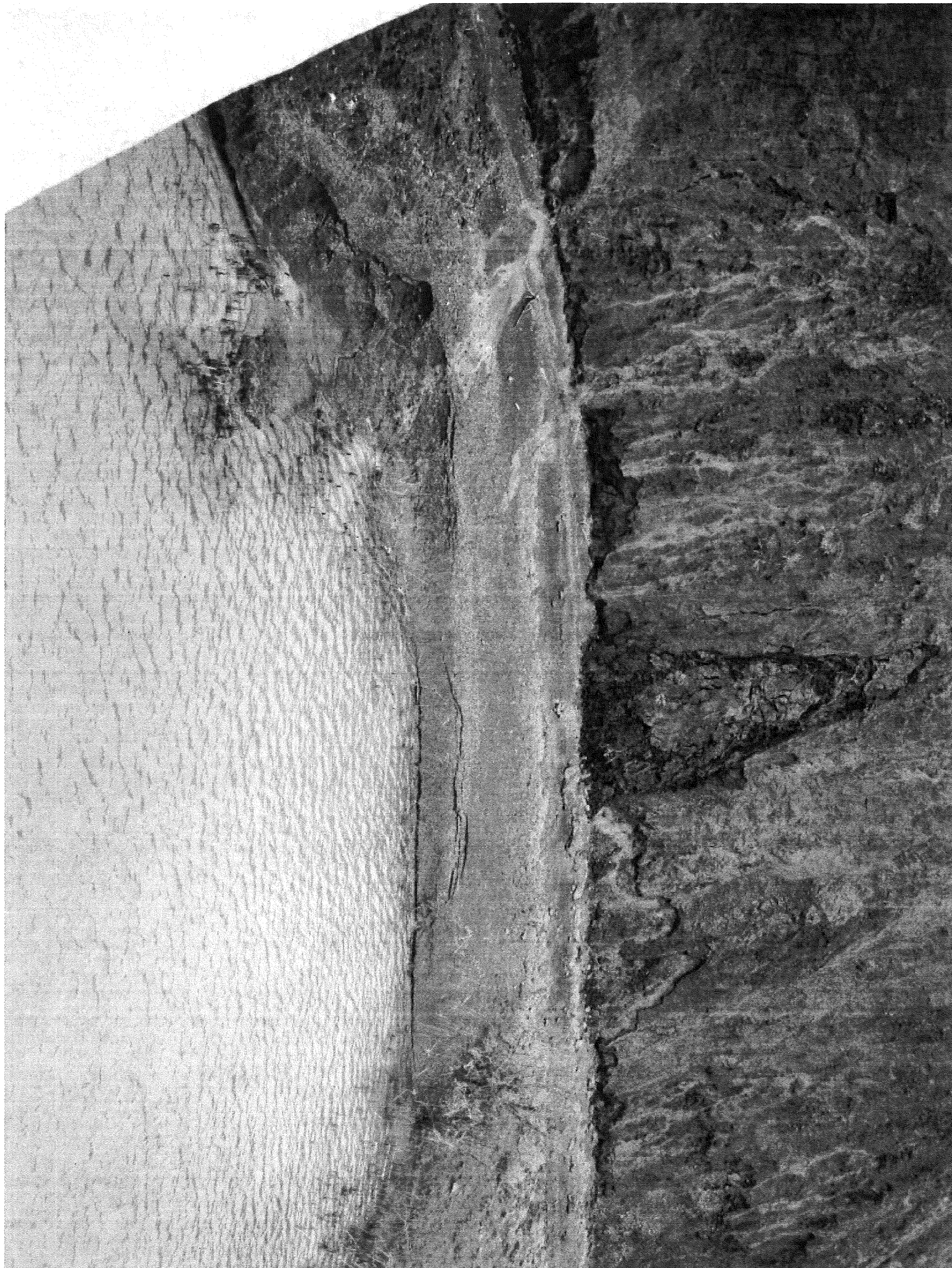
Classification: UNCLASSIFIED
Caveats: NONE







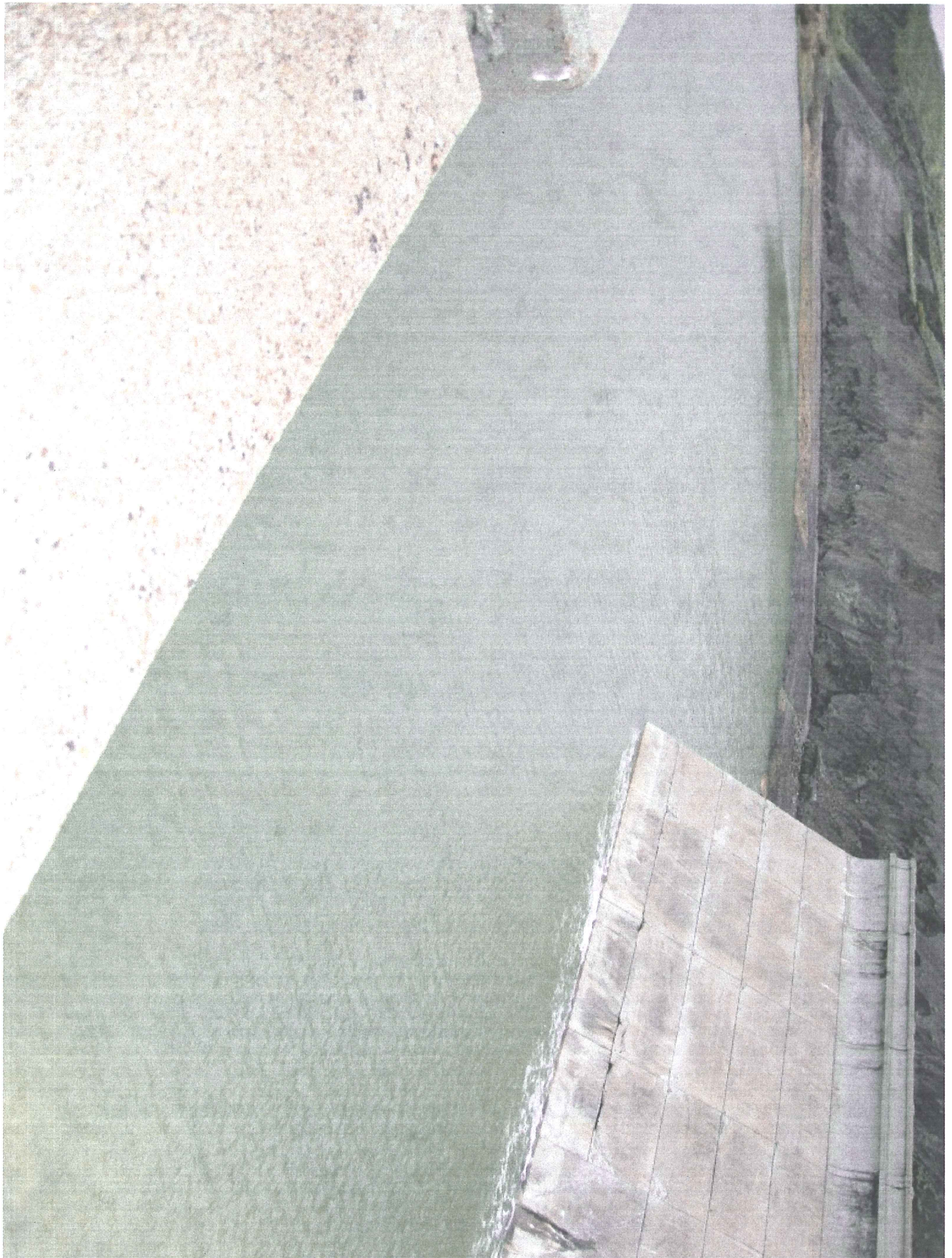


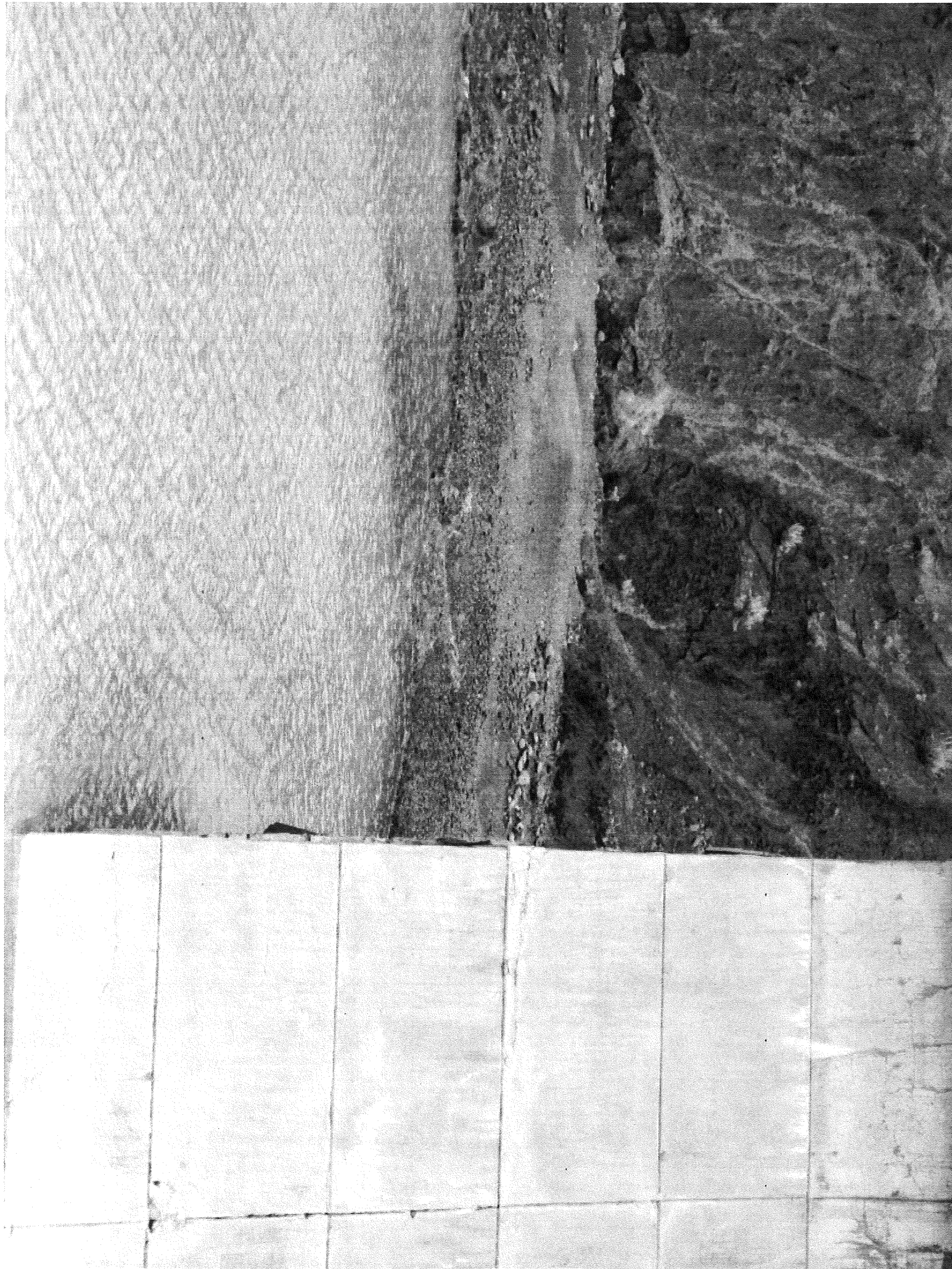












NWO

From: [REDACTED] NWD02
Sent: Wednesday, May 25, 2011 9:31 AM
To: Farhat, Jody S NWD02; [REDACTED] NWD02
Cc: [REDACTED] NWD02; [REDACTED] NWD02
Subject: FW: Storage at projects upstream of Garrison and Fort Peck (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

FYSA. Current YETL pool elevation is 3620 feet, 20 feet below base of exclusive flood control (3640-3657).

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]

[REDACTED] (fax)

-----Original Message-----

From: Aycock, Gordon L [<mailto:GAycock@usbr.gov>]
Sent: Wednesday, May 25, 2011 9:25 AM
To: [REDACTED] NWO; Erger, Patrick J; Felchle, Timothy (Tim) H; Lawson, John H
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWD02; Bertino, John J Jr
Subject: RE: Storage at projects upstream of Garrison and Fort Peck (UNCLASSIFIED)

Thanks for the heads up. We had a record rain event in Billings yesterday 3.12 inches of precip the most for any day of the year. A lot of flooding around Billings. Rains have continued throughout the basin kicking flows up. Inflow to Bighorn Lake is currently 18,000 cfs and raising. We filled 3.5 feet (20,000 af) yesterday so our storage is being used up in a hurry. I don't see things backing off much with all the snow yet to come. We need to slow the reservoir down as soon as we can.

http://www.usbr.gov/gp-bin/image_png.pl?000C061A

Gordon L. Aycock

Technical Specialist

Reservoir Operations & Water Rights

Bureau of Reclamation

Great Plains Regional Office

P.O. Box 36900

Billings, MT 59107-6900

Phone: 406-247-7756

From: [REDACTED] NWO [mailto:[REDACTED]@usace.army.mil]
Sent: Wednesday, May 25, 2011 6:58 AM
To: Erger, Patrick J; Aycock, Gordon L; Felchle, Timothy (Tim) H; Lawson, John H
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWD02; Bertino, John J Jr
Subject: Storage at projects upstream of Garrison and Fort Peck (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED

Caveats: NONE

Patrick, Gordon, Tim, and John:

I am going to be scheduling a conference call today to discuss storage at projects in Montana and Wyoming. Up to now we had been on the course of normal operations - operate to base of flood control zone.

The situation has changed.

With the recent rain in Montana Garrison is seeing record inflows. The current plan is to increase releases to 85,000 cfs from Garrison by Monday. Garrison and Oahe are in their exclusive flood control zones and Ft Peck will be there in the next week. The 85,000 cfs release will move down the mainstem system with all projects below Garrison also setting release records.

With the critical situation on the Missouri River mainstem we need to store as much water as possible in the reservoirs upstream of Fort Peck and Garrison.

I would like to discuss all projects in detail on the call.

I would appreciate you considering the following actions immediately: reduce Tiber's release to 400 cfs and reduce Boysen's release as much as possible to reduce inflows into Yellowtail immediately allowing Yellowtail to hold its current release of 4500 cfs or reduce further.

Garrison's peak from the rain event is forecast May 31. If we can provide relief to that peak we could evacuate built up storage after that before the snowmelt kicks into high gear.

I am well aware of the snow we still have coming from the mountains. I'm asking for your best judgment in helping us balance the risk in the whole basin by storing as much water as

possible upstream of the mainstem projects. Thanks in advance for your cooperation and effort.


Chief, Water Control and Water Quality Section

U.S. Army Corps of Engineers, Omaha District


Classification: UNCLASSIFIED

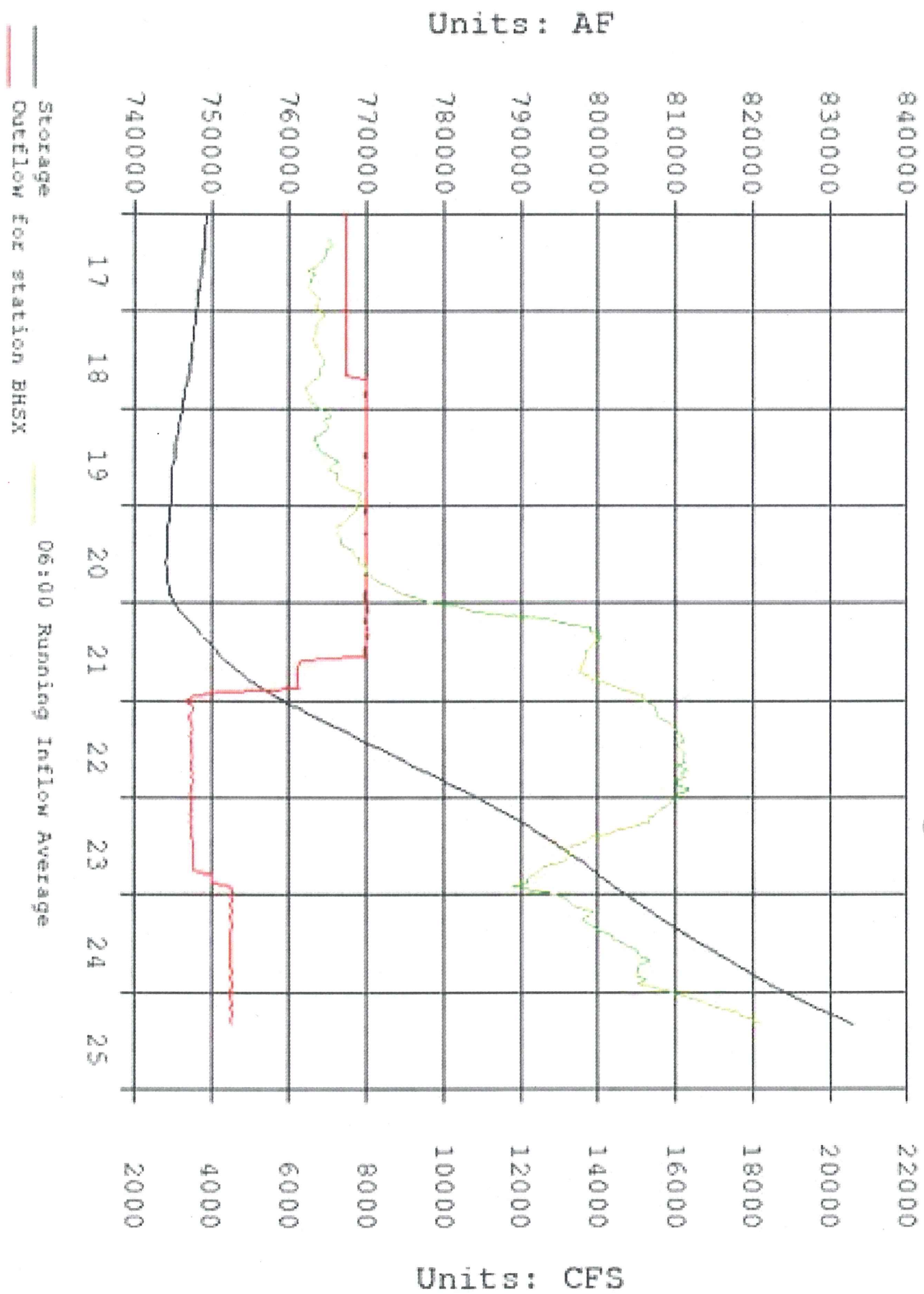
Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Data For station BHR
Plotted 05/25/2011 08:23

from 2011MAY17 to 2011MAY25



[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 9:02 AM
To: Farhat, Jody S NWD02; [REDACTED] NWO; Quinn, Kevin R NWO
Subject: Media requests

FYSA,

I'm doing my best to accommodate media requests as there is a lot of bad information circulating. This morning, I have interview requests from Minot television, Bismarck television, two Fargo radio stations and two Bismarck radio stations. All in addition to the press conference and subsequent interviews there. Currently focusing on the Bismarck media.

Message sent via my BlackBerry Wireless Device

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 9:00 AM
To: [REDACTED] NWO; Farhat, Jody S NWD02; Quinn, Kevin R NWO
Subject: Re: Press conference

No changes here, just more people on the way.

[REDACTED]
Chief, Readiness Branch
[REDACTED]

----- Original Message -----

From: [REDACTED] NWO
To: Farhat, Jody S NWD02; Quinn, Kevin R NWO; [REDACTED] NWO
Sent: Wed May 25 06:52:32 2011
Subject: Press conference

Any forecast changes, updates or messages I need to convey at today's press conference? It starts at 10...

Message sent via my BlackBerry Wireless Device

[REDACTED] NWO

From: [REDACTED] NWD
Sent: Wednesday, May 25, 2011 8:59 AM
To: [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; Buchholz, Robert J
NWP; Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWW; [REDACTED]
[REDACTED] NWW; [REDACTED] NWS; [REDACTED] NWW; [REDACTED] NWK;
[REDACTED] NWO; [REDACTED] NWW; [REDACTED] NWD02; [REDACTED]
M NWK
Subject: FW: E&C Assistance to Omaha District (UNCLASSIFIED)
Importance: High

All,

See request below from John Bertino and get back to me today with any interest!

John,

If you'd like to add any specifics for what you are looking for to fill the H&H, please reply to all.

Thanks!

[REDACTED]
-----Original Message-----

From: [REDACTED] NWD
Sent: Tuesday, May 24, 2011 1:57 PM
To: [REDACTED] A NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED]
[REDACTED] NWD; [REDACTED] NWD02; [REDACTED] NWD02
Cc: [REDACTED] NWD
Subject: FW: E&C Assistance to Omaha District (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Please canvass and coordinate with in your respective COPs. The interested persons should talk to their respective E & C Chiefs. Any one of you are interested, please let me know by COB tomorrow.

[REDACTED]
Chief, Business Technical Division
Northwestern Division, U.S. Army Corps of Engineers
Phone: [REDACTED]
Cell: [REDACTED]
[\[REDACTED\]@usace.army.mil](mailto:[REDACTED]@usace.army.mil)

-----Original Message-----

From: [REDACTED] NWD
Sent: Tuesday, May 24, 2011 1:54 PM
To: [REDACTED] NWK; [REDACTED] NWP; [REDACTED] NWS; [REDACTED]
NWW; [REDACTED] NWD
Cc: [REDACTED] NWD; [REDACTED] NWD; Farhat, Jody S NWD02; [REDACTED] NWD;
[REDACTED] NWK; [REDACTED] NWS; Bertino, John J Jr NWO

Subject: FW: E&C Assistance to Omaha District (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Team,

Conditions in Upper Missouri River Basin are ripe for record pool levels and discharges downstream. The situation is serious enough, General McMahon has canceled his planned trip to Dallas and he is going to NWO AOR and will be there through next Monday. Omaha District is in dire need of E & C Assistance in a couple of days. The following are the disciplines needed:

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Please provide your nominees to me by COB tomorrow, 25 May and we can discuss further on Thursday COREC call.

[REDACTED]: If you could provide any assistance, it will be appreciated.

[REDACTED]
[REDACTED]
Chief, Business Technical Division
Northwestern Division, U.S. Army Corps of Engineers
Phone: [REDACTED]
Cell: [REDACTED]
[REDACTED]@usace.army.mil

-----Original Message-----

From: Bertino, John J Jr NWO

Sent: Tuesday, May 24, 2011 11:42 AM

To: [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD

Subject:

Guys,

Things have gone from bad to worse. I have been asked by my commander to ask for help. I need 4 H&H folks to conduct field activities to help establish levee heights and make decisions in the field. I also need 4 Geotechs to help do similar work as H&H folks. In addition we may need help to do dam surveillance at Garrison and Oahe Dams. For planning purposes I would plan on 3 to 4 weeks. It may be shorter, it may be more.

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Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 8:53 AM
To: Farhat, Jody S NWD02; Quinn, Kevin R NWO; [REDACTED] NWO
Subject: Press conference

Any forecast changes, updates or messages I need to convey at today's press conference? It starts at 10...

Message sent via my BlackBerry Wireless Device

NWO

From: [REDACTED] NWD02
Sent: Wednesday, May 25, 2011 8:35 AM
To: Farhat, Jody S NWD02; [REDACTED] NWD02
Subject: FW: Storage at projects upstream of Garrison and Fort Peck (UNCLASSIFIED)

Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

FYSA.

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED] (fax)

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 7:58 AM
To: 'Patrick Erger'; Aycock, Gordon L; Felchle, Timothy (Tim) H; 'jlawson@usbr.gov'
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWD02; Bertino, John J Jr
Subject: Storage at projects upstream of Garrison and Fort Peck (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Patrick, Gordon, Tim, and John:

I am going to be scheduling a conference call today to discuss storage at projects in Montana and Wyoming. Up to now we had been on the course of normal operations - operate to base of flood control zone.

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[REDACTED]
Chief, Water Control and Water Quality Section U.S. Army Corps of Engineers, Omaha District
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 8:25 AM
To: Remus, John I NWO; Farhat, Jody S NWD02; Thomas, Kimberly S NWO
Cc: [REDACTED] NWO
Subject: Re: Standing Rock email for innundation maps (UNCLASSIFIED)

They would just be effected by the Oahe pool elevation.

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: [REDACTED] NWO
To: Farhat, Jody S NWD02; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO
Sent: Wed May 25 06:22:43 2011
Subject: RE: Standing Rock email for innundation maps (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

I don't know what exactly was discussed on the CODEL call, but I am assuming Mr. Ironeyes is concerned with Fort Yates. We do not have a map of that area, but could develop one. This would take a while, and I don't know how accurate it would be. I don't think there is very good topo in the area.

I would suggest that the tribe review what happened in 1997. Of the top of my head they could expect basement flooding on some of the low areas, and the causeway may suffer some erosion.

[REDACTED]
-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 7:53 AM
To: [REDACTED] NWO; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO
Subject: Standing Rock email for innundation maps (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Edward Ironeyes just called. They haven't received the flood inundation mapping mentioned on the CODEL call yesterday afternoon, but acknowledge that perhaps it hasn't been sent out yet.

They would like a copy when it is available. Please send it to eironeyes@standingrock.org

Jody

Classification: UNCLASSIFIED

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 8:24 AM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; Blechinger, Erik T NWO; [REDACTED] ULA@NWO; [REDACTED]
[REDACTED] HQ02; [REDACTED] NWO
Subject: Inundation Mapping - Bismarck/Mandan, ND and Pierre/Ft. Pierre, SD - Provisional
(UNCLASSIFIED)
Attachments: Bismarck_85kcfs.pdf; Oahe_Inundation_11x17.pdf

Classification: UNCLASSIFIED

Caveats: FOUO

CMT,

Please find the inundation mapping for the Bismarck/Mandan, ND and Pierre/Ft. Pierre, SD areas. These are provisional and represent a release of 85,000 cfs out of both Garrison and Oahe dams.

These have went to the congressional folks, State EM offices, and will be soon to the public.

Please let me know if you have any questions.

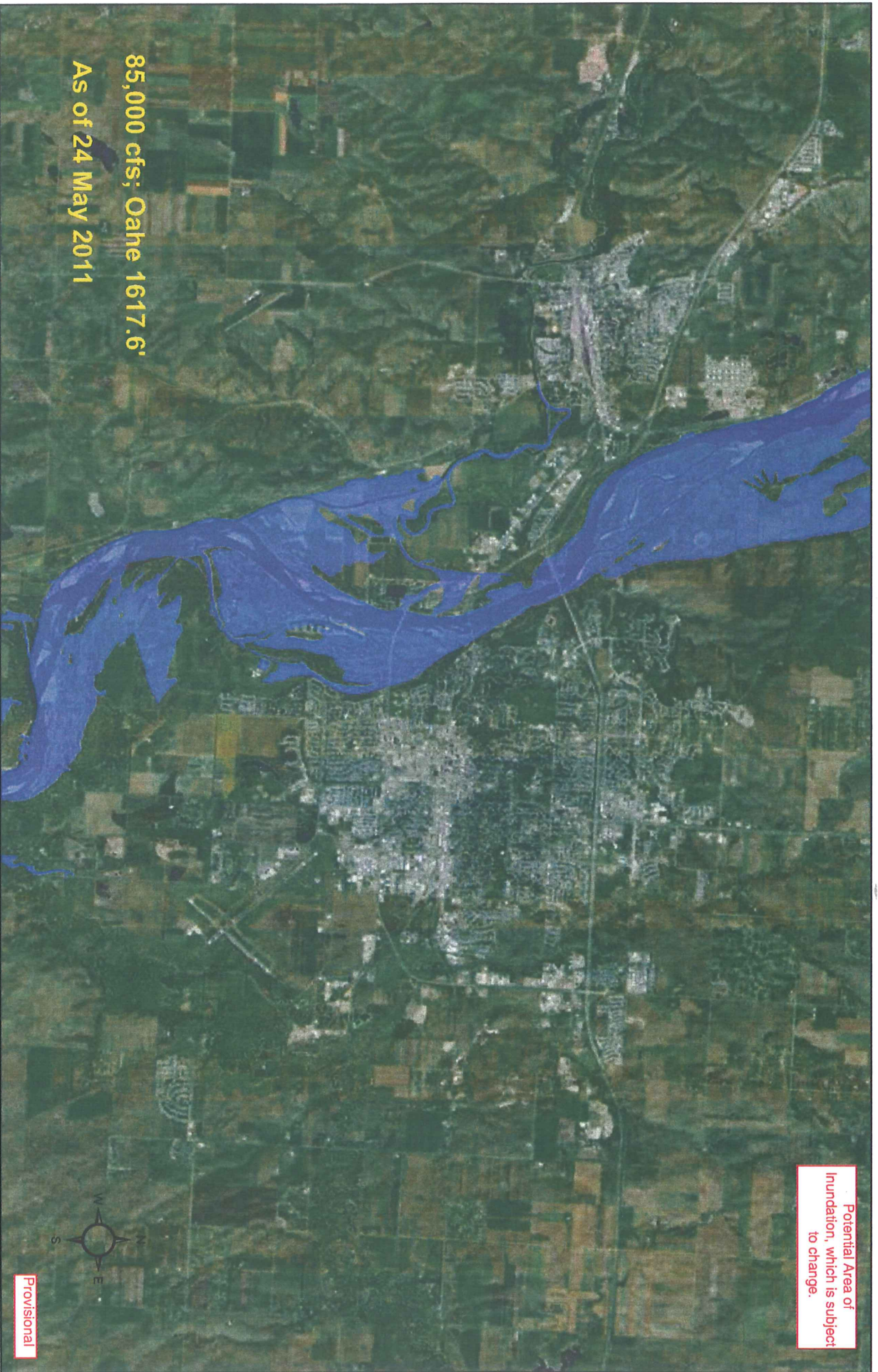
Thanks,

[REDACTED]
[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED

Caveats: FOUO

Potential Area of
Inundation, which is subject
to change.



85,000 cfs; Oahe 1617.6'
As of 24 May 2011



Provisional



Legend

- 1960 River Miles
- Inundation @ 85,000 cfs

Pierre / Fort Pierre, SD

Map 25, 2011

Inundation based on a release of 85,000 cfs

Disclaimer: Potential Area of Inundation, which is subject to change

Provisional

0 6,000 12,000 24,000 Feet

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 8:23 AM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO
Subject: RE: Standing Rock email for innundation maps (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

I don't know what exactly was discussed on the CODEL call, but I am assuming Mr. Ironeyes is concerned with Fort Yates. We do not have a map of that area, but could develop one. This would take a while, and I don't know how accurate it would be. I don't think there is very good topo in the area.

I would suggest that the tribe review what happened in 1997. Of the top of my head they could expect basement flooding on some of the low areas, and the causeway may suffer some erosion.

[REDACTED]
-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 7:53 AM
To: [REDACTED] NWO; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO
Subject: Standing Rock email for innundation maps (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Edward Ironeyes just called. They haven't received the flood inundation mapping mentioned on the CODEL call yesterday afternoon, but acknowledge that perhaps it hasn't been sent out yet.

They would like a copy when it is available. Please send it to eironeyes@standingrock.org

Jody

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 8:19 AM
To: [REDACTED] NWO; 'Alan Burnt (NE Governor's Office)'; 'alan.feyerherm@mail.house.gov'; 'Andera Travnicek (ND Governors Office)'; 'Ann Thomas Johnston (NE Terry)'; 'Anne Thimsen (SD Noem)'; 'Ansley Mick (NE Smith)'; 'Ben Ready (SD Thune)'; 'Brad Schweer (Terry)'; 'Brian Clifford (WY Barrasso)'; 'Brian Dunnigan (NE Governor's Office)'; 'brianne_dugan@baucus.senate.gov'; 'Chris Tomassi (WY Enzi)'; 'Dan English (SD Thune)'; 'Darrell_Podany@Johanns.senate.gov'; 'David Spryncznatyk (ND Governor's Office)'; 'dayle_williamson@bennelson.senate.gov'; 'Dean.Mathisen@mail.house.gov'; 'deb.vanmatre@mail.house.gov'; 'Edwin Elfmann (IA King)'; 'Eric Bierwagen (MT Rehberg)'; 'Eric Hultman (NE Terry)'; 'erick_lutt@bennelson.senate.gov'; 'Erik Nelson (SD Johnson)'; 'Janelle DiLuccia (SD Johnson)'; 'Jason Glodt (SD Governor's Office)'; 'kate_howard@bennelson.senate.gov'; 'Kevin Caulfield (ND Berg)'; 'Kristi Wallin (WY Barrasso)'; 'Louis.pofahl@mail.house.gov'; 'Mark Matulka (NE Governor's Office)'; 'marty_boeckel@conrad.senate.gov'; 'nancy_johner@johanns.senate.gov'; 'nathan_vanderPlatts@harkin.senate.gov'; 'Patrick Lehman (Johanns)'; 'patrick_leahy@bennelson.senate.gov'; 'pete.Obermueller@mail.house.gov'; 'Phil_Erdman@johanns.senate.gov'; 'Renee Latterell (SD Noem)'; 'Robin Bailey (WY Enzi)'; 'Ron Rauschenberger (ND Governors Office)'; 'ryan.mcconnaughey@mail.house.gov'; 'Schwietert, David (Thune)'; 'shane_goettle@hoeven.senate.gov'; 'Sharon Boysen (SD Johnson)'; 'Sheena Wilson (MT Governor's Office)'; 'sherry_kuntz@grassley.senate.gov'; 'Spencer Gray (MT Baucus)'; 'Ted Stopulos'; 'Thomas "Tucker" Fagan (WY Lummis)'; 'Todd Sando (ND State Water Commission)'; 'Tom Nelson (ND Berg)'; 'Tracee Sutton (ND Conrad)'; 'WY Governor's Office'; 'Zachary Nelson (Zach_Nelson@bennelson.senate.gov)'; 'Kristi.Turman@state.sd.us'; 'Tina.Titze@state.sd.us'
Cc: Ruch, Robert J COL NWO; [REDACTED] NWO; Schenk, Kathryn M NWO; Bertino, John J Jr NWO; [REDACTED] NWO; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] NWK
Subject: RE: USACE Missouri River Flood Status Update (UNCLASSIFIED)
Attachments: Oahe_Inundation_11x17.pdf

Classification: UNCLASSIFIED

Caveats: FOUO

All,

Attached is the 11x17 inundation map of the Fort Pierre and Pierre area. The provisional map is based on a release of 85,000 cfs from Oahe. Please let me know if you have any questions.

Thanks,
[REDACTED]

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 2:12 PM

To: Alan Burnt (NE Governor's Office); alan.feyerherm@mail.house.gov; Andera Travnicek (ND Governors Office); Ann Thomas Johnston (NE Terry); Anne Thimsen (SD Noem); Ansley Mick (NE Smith); Ben Ready (SD Thune); Brad Schweer (Terry); Brian Clifford (WY Barrasso); Brian Dunnigan (NE Governor's Office); brianne.dugan@baucus.senate.gov; Chris Tomassi (WY Enzi); Dan English (SD Thune); Darrell.Podany@Johanns.senate.gov; David Spryncznatyk (ND Governor's Office); dayle.williamson@bennelson.senate.gov; Dean.Mathisen@mail.house.gov; deb.vanmatre@mail.house.gov; Edwin Elfmann (IA King); Eric Bierwagen (MT Rehberg); Eric Hultman (NE Terry); erick.lutt@bennelson.senate.gov; Erik Nelson (SD Johnson); Janelle DiLuccia (SD Johnson); Jason Glodt (SD Governor's Office); kate.howard@bennelson.senate.gov; Kevin Caulfield (ND Berg); Kristi Wallin (WY Barrasso); Louis.pofahl@mail.house.gov; Mark Matulka (NE Governor's Office); marty.boeckel@conrad.senate.gov; nancy.johner@johanns.senate.gov; nathan.vanderPlatts@harkin.senate.gov; Patrick Lehman (Johanns); patrick.leahy@bennelson.senate.gov; pete.Obermueller@mail.house.gov; Phil.Erdman@johanns.senate.gov; Renee Latterell (SD Noem); Robin Bailey (WY Enzi); Ron Rauschenberger (ND Governors Office); ryan.mcconnaughey@mail.house.gov; Schwieter, David (Thune); shane.goettler@hoeven.senate.gov; Sharon Boysen (SD Johnson); Sheena Wilson (MT Governor's Office); sherry.kuntz@grassley.senate.gov; Spencer Gray (MT Baucus); Ted Stopulos; Thomas "Tucker" Fagan (WY Lummis); Todd Sando (ND State Water Commission); Tom Nelson (ND Berg); Tracee Sutton (ND Conrad); WY Governor's Office; Zachary Nelson (Zach.Nelson@bennelson.senate.gov)

Cc: Ruch, Robert J COL NWO; [REDACTED] NWO; Schenk, Kathryn M NWO; [REDACTED] NWO; Bertino, John J Jr NWO; [REDACTED] NWO; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] NWK

Subject: USACE Missouri River Flood Status Update

Importance: High

Good afternoon. With the rapidly changing conditions in the Missouri River Basin, the Omaha District Corps of Engineers is scheduling a conference call for all basin Congressional staff and State staff at 1600 hrs CST, today 24 May 2011. Please share this email with anyone in your office whom you believe may benefit from the update. The call in information is as follows:

USA Toll-Free: (877)336-1828
ACCESS CODE: 1054750

Regards,

[REDACTED]
Chief of Planning
Congressional Liaison
US Army Corps of Engineers
Omaha District
1616 Capitol Avenue
Omaha, NE 68102-4901
[REDACTED] (o)
[REDACTED] (c)

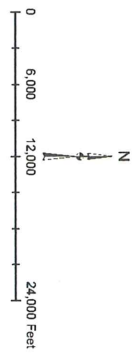
Classification: UNCLASSIFIED
Caveats: FOUO



Legend

- 1960 River Miles
- Inundation @ 85,000 cfs

Pierre / Fort Pierre, SD
MAR 25, 2011
Inundation based on a release of 85,000 cfs
Disclaimer: Potential Area of Inundation, which is subject to change
Provisional



[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 8:06 AM
To: Eckert Uptmor, Kayla A NWO; 'Alan Burnt (NE Governor's Office)'; 'alan.feyerherm@mail.house.gov'; 'Andera Travnicek (ND Governors Office)'; 'Ann Thomas Johnston (NE Terry)'; 'Anne Thimsen (SD Noem)'; 'Ansley Mick (NE Smith)'; 'Ben Ready (SD Thune)'; 'Brad Schweer (Terry)'; 'Brian Clifford (WY Barrasso)'; 'Brian Dunnigan (NE Governor's Office)'; 'brianne_dugan@baucus.senate.gov'; 'Chris Tomassi (WY Enzi)'; 'Dan English (SD Thune)'; 'Darrell_Podany@Johanns.senate.gov'; 'David Spryncznatyk (ND Governor's Office)'; 'dayle_williamson@bennelson.senate.gov'; 'Dean.Mathisen@mail.house.gov'; 'deb.vanmatre@mail.house.gov'; 'Edwin Elfmann (IA King)'; 'Eric Bierwagen (MT Rehberg)'; 'Eric Hultman (NE Terry)'; 'erick_lutt@bennelson.senate.gov'; 'Erik Nelson (SD Johnson)'; 'Janelle DiLuccia (SD Johnson)'; 'Jason Glodt (SD Governor's Office)'; 'kate_howard@bennelson.senate.gov'; 'Kevin Caulfield (ND Berg)'; 'Kristi Wallin (WY Barrasso)'; 'Louis.pofahl@mail.house.gov'; 'Mark Matulka (NE Governor's Office)'; 'marty_boeckel@conrad.senate.gov'; 'nancy_johner@johanns.senate.gov'; 'nathan_vanderPlatts@harkin.senate.gov'; 'Patrick Lehman (Johanns)'; 'patrick_leahy@bennelson.senate.gov'; 'pete.Obermueller@mail.house.gov'; 'Phil_Erdman@johanns.senate.gov'; 'Renee Latterell (SD Noem)'; 'Robin Bailey (WY Enzi)'; 'Ron Rauschenberger (ND Governors Office)'; 'ryan.mcconnaughey@mail.house.gov'; 'Schwietert, David (Thune)'; 'shane_goettle@hoeven.senate.gov'; 'Sharon Boysen (SD Johnson)'; 'Sheena Wilson (MT Governor's Office)'; 'sherry_kuntz@grassley.senate.gov'; 'Spencer Gray (MT Baucus)'; 'Ted Stopulos'; 'Thomas "Tucker" Fagan (WY Lummis)'; 'Todd Sando (ND State Water Commission)'; 'Tom Nelson (ND Berg)'; 'Tracee Sutton (ND Conrad)'; 'WY Governor's Office'; 'Zachary Nelson (Zach_Nelson@bennelson.senate.gov)'; Anton, Amy J.; Wilz, Greg M.
Cc: Ruch, Robert J COL NWO; [REDACTED] NWO; Schenk, Kathryn M NWO; Bertino, John J Jr NWO; [REDACTED] NWO; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] NWK
Subject: RE: USACE Missouri River Flood Status Update (UNCLASSIFIED)
Attachments: Bismarck_85kcfs.pdf

Classification: UNCLASSIFIED
Caveats: FOUO

All,

Please find attached the inundation mapping for Bismarck and Mandan, ND. The inundation mapping for Pierre and Ft. Pierre, SD will be forthcoming in the next hour. The maps depict a flow of 85,000 cfs. Please let me know if you have any questions.

Thanks,
[REDACTED]

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, May 24, 2011 2:12 PM

To: Alan Burnt (NE Governor's Office); alan.feyerherm@mail.house.gov; Andera Travnicek (ND Governors Office); Ann Thomas Johnston (NE Terry); Anne Thimsen (SD Noem); Ansley Mick (NE Smith); Ben Ready (SD Thune); Brad Schweer (Terry); Brian Clifford (WY Barrasso); Brian Dunnigan (NE Governor's Office); brianne.dugan@baucus.senate.gov; Chris Tomassi (WY Enzi); Dan English (SD Thune); Darrell.Podany@Johanns.senate.gov; David Spryncznatyk (ND Governor's Office); dayle.williamson@bennelson.senate.gov; Dean.Mathisen@mail.house.gov; deb.vanmatre@mail.house.gov; Edwin Elfmann (IA King); Eric Bierwagen (MT Rehberg); Eric Hultman (NE Terry); erick.lutt@bennelson.senate.gov; Erik Nelson (SD Johnson); Janelle DiLuccia (SD Johnson); Jason Glodt (SD Governor's Office); kate.howard@bennelson.senate.gov; Kevin Caulfield (ND Berg); Kristi Wallin (WY Barrasso); Louis.pofahl@mail.house.gov; Mark Matulka (NE Governor's Office); marty.boeckel@conrad.senate.gov; nancy.johner@johanns.senate.gov; nathan.vanderPlatts@harkin.senate.gov; Patrick Lehman (Johanns); patrick.leahy@bennelson.senate.gov; pete.Obermuelle@mail.house.gov; Phil.Erdman@johanns.senate.gov; Renee Latterell (SD Noem); Robin Bailey (WY Enzi); Ron Rauschenberger (ND Governors Office); ryan.mcconnaughey@mail.house.gov; Schwieter, David (Thune); shane.goettler@hoeven.senate.gov; Sharon Boysen (SD Johnson); Sheena Wilson (MT Governor's Office); sherry.kuntz@grassley.senate.gov; Spencer Gray (MT Baucus); Ted Stopulos; Thomas "Tucker" Fagan (WY Lummis); Todd Sando (ND State Water Commission); Tom Nelson (ND Berg); Tracee Sutton (ND Conrad); WY Governor's Office; Zachary Nelson (Zach.Nelson@bennelson.senate.gov)

Cc: Ruch, Robert J COL NWO; [REDACTED] NWO; Schenk, Kathryn M NWO; [REDACTED] NWO; Bertino, John J Jr NWO; [REDACTED] NWO; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] NWK

Subject: USACE Missouri River Flood Status Update

Importance: High

Good afternoon. With the rapidly changing conditions in the Missouri River Basin, the Omaha District Corps of Engineers is scheduling a conference call for all basin Congressional staff and State staff at 1600 hrs CST, today 24 May 2011. Please share this email with anyone in your office whom you believe may benefit from the update. The call in information is as follows:

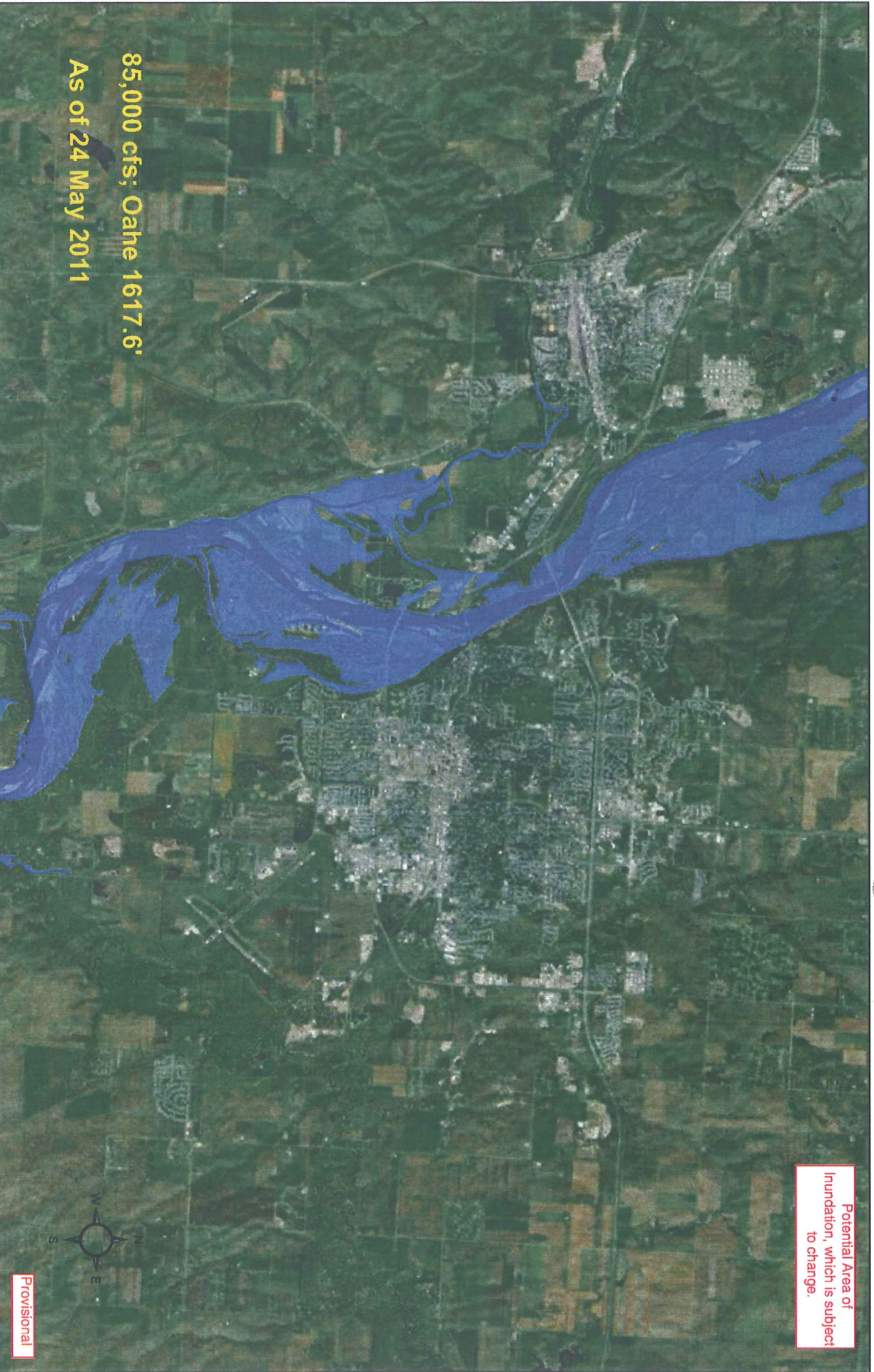
USA Toll-Free: [REDACTED]
ACCESS CODE: [REDACTED]

Regards,

[REDACTED]
Chief of Planning
Congressional Liaison
US Army Corps of Engineers
Omaha District
1616 Capitol Avenue
Omaha, NE 68102-4901
[REDACTED] (o)
[REDACTED] (c)

Classification: UNCLASSIFIED
Caveats: FOUO

Potential Area of
Inundation, which is subject
to change.



85,000 cfs; Oahe 1617.6'
As of 24 May 2011

Provisional

NWO

From: [REDACTED] HQ02
Sent: Wednesday, May 25, 2011 7:03 AM
To: [REDACTED] HQ02; Farhat, Jody S NWD02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] NWD02
Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: RE: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

AREA OF CONCERN -- Is Oahe moving South?

We had embankment movement the last time we had high water at Oahe. This needs to be watched.

[REDACTED] -- Any comments?

[REDACTED]
Dam Safety Program Manager, Emeritus
HQS, US Army Corps of Engineers
[REDACTED] (Office)
[REDACTED] (Cell)

-----Original Message-----

From: [REDACTED] HQ02
Sent: Wednesday, May 25, 2011 8:00 AM
To: Farhat, Jody S NWD02; Shepp, David L HQ02
Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: RE: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Much appreciate that summary. For Garrison and Oahe record releases, is there record pools as well?

Thanks,

[REDACTED]
National Dam Safety Program Manager
US Army Corps of Engineers - HQ
[REDACTED] (office)
[REDACTED] (cell)
[REDACTED]@usace.army.mil

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 7:30 AM
To: [REDACTED] HQ02
Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] NWD02; [REDACTED] NWD02

Subject: RE: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Dave - I wasn't aware of the requirement.

Here's a snapshot for this morning.

Fort Peck: 2245.3, up 0.6 feet since ydy; top of gates 2250; current release rate 10,000 cfs
Garrison: 1850.7, up 0.3 feet; top of gates 1854; current release rate 70,000 cfs (record release)

Oahe: 1617.9, up 0.2 feet; top of gates 1620; current release 65,000 cfs (record release) Big Bend - normal operations Fort Randall: 1356.0, up 0.5 feet; top of gates 1375; current release rate 59,000 cfs Gavins Point - normal operations; current release rate 60,000 cfs

Big bend and Gavins Point have very little flood control storage and are currently within the normal operating range. Releases from Garrison to Gavins Point will be increased to the 85,000 cfs range over the coming week to two weeks.

Jody

-----Original Message-----

From: [REDACTED] HQ02

Sent: Wednesday, May 25, 2011 3:41 AM

To: Farhat, Jody S NWD02

Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Importance: High

Classification: UNCLASSIFIED

Caveats: NONE

Hi Jody-you need to be sending HQ daily reservoir summaries when you're experiencing flooding. Please copy all of us on the cc line above. Also, we need them by 0830 EDT to have them in time to be of use at the 0900 UOC briefing.

The EM chain isn't sufficient, we need info via the H&H chain. Know that we're not picking on you--everyone is expected to keep us posted during flooding.

Thanks for your help with this.

-----Original Message-----

From: [REDACTED] HQ02

Sent: Tuesday, May 24, 2011 10:25 PM

To: [REDACTED] HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]
Looks like NWD is not reporting to the UOC or HQ.

Senior Hydraulic Engineer
Headquarters, US Army Corps of Engineers
441 G St. NW
Washington DC 20314-1000
Phone [REDACTED]
Cell [REDACTED]

-----Original Message-----

From: [REDACTED] HQ02
Sent: Tuesday, May 24, 2011 6:16 PM
To: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02;
[REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

See note below.

[REDACTED]
[REDACTED]
Chief Engineering and Construction
HQ U.S. Army Corps of Engineers
Office: [REDACTED]
Cell: [REDACTED]

-----Original Message-----

From: [REDACTED] HQ02
Sent: Tuesday, May 24, 2011 10:19 AM
To: Grisoli, William T MG HQ02; [REDACTED] HQ02; [REDACTED] HQ02; Smith,
Thomas P COL HQ02; [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

FYSA.....

[REDACTED]
[REDACTED]
Director Civil Works, USACE
(W) [REDACTED]
(Cell) [REDACTED]
[REDACTED]@us.army.mil

-----Original Message-----

From: [REDACTED] HQ
Sent: Tuesday, May 24, 2011 8:38 AM
To: [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

FYI

[REDACTED]
Deputy Chief (Civil Works)
Northwestern Division
Regional Integration Team (RIT)
U.S. Army Corps of Engineers
441 G Street, NW
3C93
Washington, D.C. 20314-1000

[REDACTED] (voice)

[REDACTED] (fax)

[REDACTED] (mobile)

[REDACTED]@usace.army.mil

-----Original Message-----

From: U.S. Army Corps of Engineers [mailto:kevin.r.quinn@usace.army.mil]

Sent: Monday, May 23, 2011 6:29 PM

To: [REDACTED] NWK

Subject: Lots more water coming down the Missouri River - now!

<file:///C:/DOCUME~1/g6pa9krq/LOCALS~1/Temp/msohtmlclip1/01/clip_image001.jpg>

U.S. ARMY CORPS OF ENGINEERS
BUILDING STRONG®
NEWS RELEASE

For Immediate Release: May 23, 2011
Contact: Kevin R. Quinn 402-995-2419
kevin.r.quinn@usace.army.mil
Jody Farhat 402-996-3840
jody.s.farhat@usace.army.mil

Lots more water coming down the Missouri River - now!

Omaha, Neb. - Repeated rounds of heavy rain across Montana and the Dakotas, coupled with far above normal mountain snowpack, have pushed reservoirs to a level which calls for aggressive water releases from Missouri River mainstem dams, said Jody Farhat, Chief of the Corps' Missouri River Basin Water Management Division in Omaha.

"The upper Missouri River is seeing dramatic increases in flows, particularly after as much as eight inches of rain fell over the weekend in portions of eastern Montana and western North Dakota," Farhat said. "Unusually heavy precipitation, combined with late season heavy snowpack in parts of the Missouri Basin, means we will see near-record runoff in the Missouri basin."

Farhat thinks it is possible that Garrison Dam may be within a foot of the top of its spillway gates by this time next week. "We're beginning to make some major adjustments to water releases, starting with Fort Peck south to Gavins Point Dam and expect to do so for some time since the extended forecast is calling for more of the same."

Garrison Dam releases were increased to 60,000 cubic feet per second (cfs) today and will be stepped up until they reach 75,000 cfs on Wednesday. At the same time, releases from

the upstream reservoir Fort Peck will be reduced from the current rate of 20,000 cfs to 10,000 cfs to help stem the rise of Garrison reservoir. Garrison reservoir is expected to reach 1853 feet by this weekend due to the high flow on the Yellowstone and Little Missouri Rivers. Fort Peck reservoir is also climbing rapidly due to weekend's rainfall and low elevation snowmelt. It is expected to rise 2 feet this week, reaching 2246 by the weekend.

Oahe Dam releases will transition from 60,000 cfs today to 70,000 cfs by mid-week. Farhat expects the Oahe reservoir to reach 1618 feet by the weekend and continue to slowly drift upward over the next few weeks, perhaps peaking in mid-June. The record pool at Oahe is 1618.7 feet, set in 1995 and repeated in 1996. The peak pool level in 1997 was 0.1 foot lower at 1618.6.

Fort Randall has some space to store water, but the river reach between there and Gavins Point is already at bankfull. Gavins Point releases were increased to 60,000 cfs this afternoon and will be slowly ramped up over the coming days, possibly reaching 75,000 cfs in June unless conditions improve. This will eventually necessitate a similar magnitude increase in Fort Randall's releases.

Travel time for water released from Garrison Dam to reach the Bismarck area is about 36 hours. River managers are expecting stages of approximately 16.5 to 17 feet in the Bismarck area when the river stabilizes. The Corps' Omaha District office has deployed technical teams to help prepare for flood fighting around Bismarck and to assess the flood potential in the Pierre area.

"As already seen in other parts of the nation, high water years always bring pain and suffering with them," said Farhat. "We are doing everything we can to protect people and their property and reduce the extent and impact of flood stages along the Missouri. The situation in the Missouri River basin is changing rapidly and planned releases are subject to change with little notice." Residents who live and work in flood-prone areas should remain vigilant and be prepared to follow recommendations from their local emergency management offices.

For more information, visit the Spring 2011 Flood Response site at www.nwo.usace.army.mil.

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<<http://us.vocuspr.com/Url.aspx?520028x486114x-457220>>

If you would rather not receive future communications from U.S. Army Corps of Engineers, let us know by clicking here. <<http://USACEARMY.pr-optout.com/OptOut.aspx?520028x24691x315969x3x1875270x24000x6&Email=Steven.A.Fischer%40usace.army.mil>>

U.S. Army Corps of Engineers, 1616 Capitol Ave., Omaha, NE 68102 United States

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED] HQ02
Sent: Wednesday, May 25, 2011 7:00 AM
To: Farhat, Jody S NWD02; [REDACTED] HQ02
Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: RE: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Much appreciate that summary. For Garrison and Oahe record releases, is there record pools as well?

Thanks,

[REDACTED]
National Dam Safety Program Manager
US Army Corps of Engineers - HQ
[REDACTED] (office)
[REDACTED] (cell)
[REDACTED]@usace.army.mil

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Wednesday, May 25, 2011 7:30 AM
To: [REDACTED] HQ02
Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: RE: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Dave - I wasn't aware of the requirement.

Here's a snapshot for this morning.

Fort Peck: 2245.3, up 0.6 feet since ydy; top of gates 2250; current release rate 10,000 cfs
Garrison: 1850.7, up 0.3 feet; top of gates 1854; current release rate 70,000 cfs (record release)
Oahe: 1617.9, up 0.2 feet; top of gates 1620; current release 65,000 cfs (record release) Big Bend - normal operations
Fort Randall: 1356.0, up 0.5 feet; top of gates 1375; current release rate 59,000 cfs
Gavins Point - normal operations; current release rate 60,000 cfs

Big bend and Gavins Point have very little flood control storage and are currently within the normal operating range. Releases from Garrison to Gavins Point will be increased to the 85,000 cfs range over the coming week to two weeks.

Jody

-----Original Message-----

From: [REDACTED] HQ02
Sent: Wednesday, May 25, 2011 3:41 AM
To: Farhat, Jody S NWD02

Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02;
[REDACTED] HQ02

Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Hi Jody-you need to be sending HQ daily reservoir summaries when you're experiencing flooding. Please copy all of us on the cc line above. Also, we need them by 0830 EDT to have them in time to be of use at the 0900 UOC briefing.
The EM chain isn't sufficient, we need info via the H&H chain. Know that we're not picking on you--everyone is expected to keep us posted during flooding.
Thanks for your help with this.
Dave

-----Original Message-----

From: [REDACTED] HQ02
Sent: Tuesday, May 24, 2011 10:25 PM
To: [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Dave,

Looks like NWD is not reporting to the UOC or HQ.

[REDACTED]
Senior Hydraulic Engineer
Headquarters, US Army Corps of Engineers
441 G St. NW
Washington DC 20314-1000
Phone [REDACTED]
Cell [REDACTED]

-----Original Message-----

From: [REDACTED] HQ02
Sent: Tuesday, May 24, 2011 6:16 PM
To: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02;
[REDACTED] HQ02; [REDACTED] W HQ02; [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

See note below.

[REDACTED]
[REDACTED]
Chief Engineering and Construction
HQ U.S. Army Corps of Engineers
Office: [REDACTED]
Cell: [REDACTED]

-----Original Message-----

From: [REDACTED] HQ02
Sent: Tuesday, May 24, 2011 10:19 AM
To: Grisoli, William T MG HQ02; [REDACTED] HQ02; [REDACTED] HQ02; Smith, Thomas P COL HQ02; [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYSA.....

[REDACTED]
[REDACTED]
Director Civil Works, USACE
(W) [REDACTED]
(Cell) [REDACTED]
[REDACTED]@us.army.mil

-----Original Message-----

From: [REDACTED] HQ
Sent: Tuesday, May 24, 2011 8:38 AM
To: [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYI

[REDACTED]
Deputy Chief (Civil Works)
Northwestern Division
Regional Integration Team (RIT)
U.S. Army Corps of Engineers
441 G Street, NW
3C93
Washington, D.C. 20314-1000

[REDACTED] (voice)
[REDACTED] (fax)
[REDACTED] (mobile)

[REDACTED]@usace.army.mil

-----Original Message-----

From: U.S. Army Corps of Engineers [mailto:kevin.r.quinn@usace.army.mil]
Sent: Monday, May 23, 2011 6:29 PM
To: [REDACTED] NWK
Subject: Lots more water coming down the Missouri River - now!

<file:///C:/DOCUME~1/g6pa9krq/LOCALS~1/Temp/msohtmlclip1/01/clip_image001.jpg>

U.S. ARMY CORPS OF ENGINEERS
BUILDING STRONG®
NEWS RELEASE

For Immediate Release: May 23, 2011
Contact: Kevin R. Quinn 402-995-2419
kevin.r.quinn@usace.army.mil
Jody Farhat 402-996-3840
jody.s.farhat@usace.army.mil

Lots more water coming down the Missouri River - now!

Omaha, Neb. - Repeated rounds of heavy rain across Montana and the Dakotas, coupled with far above normal mountain snowpack, have pushed reservoirs to a level which calls for aggressive water releases from Missouri River mainstem dams, said Jody Farhat, Chief of the Corps' Missouri River Basin Water Management Division in Omaha.

"The upper Missouri River is seeing dramatic increases in flows, particularly after as much as eight inches of rain fell over the weekend in portions of eastern Montana and western North Dakota," Farhat said. "Unusually heavy precipitation, combined with late season heavy snowpack in parts of the Missouri Basin, means we will see near-record runoff in the Missouri basin."

Farhat thinks it is possible that Garrison Dam may be within a foot of the top of its spillway gates by this time next week. "We're beginning to make some major adjustments to water releases, starting with Fort Peck south to Gavins Point Dam and expect to do so for some time since the extended forecast is calling for more of the same."

Garrison Dam releases were increased to 60,000 cubic feet per second (cfs) today and will be stepped up until they reach 75,000 cfs on Wednesday. At the same time, releases from the upstream reservoir Fort Peck will be reduced from the current rate of 20,000 cfs to 10,000 cfs to help stem the rise of Garrison reservoir. Garrison reservoir is expected to reach 1853 feet by this weekend due to the high flow on the Yellowstone and Little Missouri Rivers. Fort Peck reservoir is also climbing rapidly due to weekend's rainfall and low elevation snowmelt. It is expected to rise 2 feet this week, reaching 2246 by the weekend.

Oahe Dam releases will transition from 60,000 cfs today to 70,000 cfs by mid-week. Farhat expects the Oahe reservoir to reach 1618 feet by the weekend and continue to slowly drift upward over the next few weeks, perhaps peaking in mid-June. The record pool at Oahe is 1618.7 feet, set in 1995 and repeated in 1996. The peak pool level in 1997 was 0.1 foot lower at 1618.6.

Fort Randall has some space to store water, but the river reach between there and Gavins Point is already at bankfull. Gavins Point releases were increased to 60,000 cfs this afternoon and will be slowly ramped up over the coming days, possibly reaching 75,000 cfs in June unless conditions improve. This will eventually necessitate a similar magnitude increase in Fort Randall's releases.

Travel time for water released from Garrison Dam to reach the Bismarck area is about 36 hours. River managers are expecting stages of approximately 16.5 to 17 feet in the Bismarck area when the river stabilizes. The Corps' Omaha District office has deployed technical teams to help prepare for flood fighting around Bismarck and to assess the flood potential in the Pierre area.

"As already seen in other parts of the nation, high water years always bring pain and suffering with them," said Farhat. "We are doing everything we can to protect people and

their property and reduce the extent and impact of flood stages along the Missouri. The situation in the Missouri River basin is changing rapidly and planned releases are subject to change with little notice." Residents who live and work in flood-prone areas should remain vigilant and be prepared to follow recommendations from their local emergency management offices.

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U.S. Army Corps of Engineers, 1616 Capitol Ave., Omaha, NE 68102 United States

Classification: UNCLASSIFIED
Caveats: NONE

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Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 6:55 AM
To: Farhat, Jody S NWD02
Subject: RE: SD call tomorrow (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The SD EOC is being activated today so this events have overcome the need for the call.

The combined daily press release for all of the reservoirs is a good thing. Information movement is the key right now. I am assuming that Kevin Quinn or PAO will be releasing the information. I need to add names to the list.

Thanks
[REDACTED]

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Tuesday, May 24, 2011 11:56 PM
To: [REDACTED] NWO
Subject: SD call tomorrow

[REDACTED] - I just realized that I don't recall seeing the call in information for the SD call tomorrow afternoon. Were you going to provide that or was I?

If in fact you've sent it, I apologize. Too many emails today.

Jody

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] HQ02
Sent: Wednesday, May 25, 2011 3:41 AM
To: Farhat, Jody S NWD02
Cc: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02;
[REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

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Sent: Tuesday, May 24, 2011 10:25 PM
To: [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Looks like NWD is not reporting to the UOC or HQ.

Senior Hydraulic Engineer
Headquarters, US Army Corps of Engineers
441 G St. NW
Washington DC 20314-1000
Phone [REDACTED]
Cell [REDACTED]

-----Original Message-----

From: [REDACTED] HQ02
Sent: Tuesday, May 24, 2011 6:16 PM
To: [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02;
[REDACTED] HQ02; [REDACTED] HQ02; [REDACTED] HQ02
Subject: FW: Lots more water coming down the Missouri River - now! (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

See note below.

[REDACTED]
[REDACTED]
Chief Engineering and Construction
HQ U.S. Army Corps of Engineers
Office: [REDACTED]
Cell: [REDACTED]

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Classification: UNCLASSIFIED
Caveats: NONE

FYSA.....

[REDACTED]
[REDACTED]
Director Civil Works, USACE
(W) ([REDACTED])
(Cell) ([REDACTED])
[REDACTED]@us.army.mil

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Caveats: NONE

FYI

[REDACTED]
Deputy Chief (Civil Works)
Northwestern Division
Regional Integration Team (RIT)
U.S. Army Corps of Engineers
441 G Street, NW
3C93
Washington, D.C. 20314-1000

[REDACTED] (voice)
[REDACTED] (fax)
[REDACTED] (mobile)

[REDACTED]@usace.army.mil

-----Original Message-----

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Sent: Monday, May 23, 2011 6:29 PM
To: Fischer, Steven A NWK
Subject: Lots more water coming down the Missouri River - now!

<file:///C:/DOCUME~1/g6pa9krq/LOCALS~1/Temp/msohtmlclip1/01/clip_image001.jpg>

U.S. ARMY CORPS OF ENGINEERS
BUILDING STRONG®
NEWS RELEASE

For Immediate Release: May 23, 2011
Contact: Kevin R. Quinn 402-995-2419
kevin.r.quinn@usace.army.mil
Jody Farhat 402-996-3840
jody.s.farhat@usace.army.mil

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U.S. Army Corps of Engineers, 1616 Capitol Ave., Omaha, NE 68102 United States

Classification: UNCLASSIFIED

Caveats: NONE

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Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

From: [REDACTED] NWO
Sent: Wednesday, May 25, 2011 12:03 AM
To: Farhat, Jody S NWD02; [REDACTED] NWO; Schenk, Kathryn M NWO
Cc: Quinn, Kevin R NWO; Bartel, John J HQ02@NWO
Subject: Today's Press Conference (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

All,
I received word around 11:00 a.m. this morning that there was going to be a press conference in Bismarck with the Governor. I was asked to attend and attempted to gather the best information I could while in route, as it is roughly an hour and a half drive from the Project office. The press conference was led by Mayor Warford, in attendance were Governor Dalrymple, Mayor Helbling, General Sprynczynatyk, Greg Wilz, Commissioner Peluso and I. Several other officials from the City of Bismarck also spoke during the press conference to provide information and updates. Numerous members of the media and members of the state's congressional membership were in attendance. After introductions by Mayor Warford he turned to me for a Corps update. I provided the best information I had regarding our scheduled releases, expected river changes and why the forecast had changed from yesterday afternoon. I conveyed that we were going to further increase releases from yesterday's forecast but going to 80,000 cfs on Thursday and 85,000 cfs on Monday. Now, I see that conflicts with what was put in Flood Update #69. I also conveyed that based on these releases we expected a river stage of 17.5 feet but that with backwater effects from Oahe's pool we could see a stage up to 18 feet. I reiterated that the forecast was still subject to change based on actual precipitation.

Here's a summary of what was conveyed by those who spoke:

- Governor Dalrymple stated that Senator Hoeven spoke with USACE about getting direct and advanced assistance from USACE. He indicated that Senator Hoeven spoke with MG McMahon and had invited him to Bismarck this Friday to see the peak stages first hand, although he indicated that based on the revised forecast I provided stages would no longer peak by Friday. He also conveyed that Senator Conrad had been in touch with USACE and he was assured the Senator Conrad that we'd respond as well.
- Mel Bullinger (Bismarck City Engineer) Conveyed that they are making plans to protect specific areas. He specifically named Riverwood Drive and Mills Avenue. He stated that the City has an inundation map on their website, which shows inundations for 17 feet, or elevation 1634. The Mayor asked if they could revise the maps to reflect USACE's current forecast. He indicated that they'd try to have that done prior to the City's 5:00 flood planning meeting. I was not able to attend that meeting, so I do not know if those maps are currently available?
- Jeff Heinz discussed establishment of "Sandbag Central" at the Missouri Valley Fairgrounds. He also conveyed that the City was proceeding with installation of Hesco's along Riverwood Drive. He indicated that work would commence this evening. He also indicated that they were looking at installing a barrier, or performing a road raise at Mills Avenue. These two roads are the only two accesses to the Fox Island area so they are a major concern.
- Keith Dempke indicated that the City was monitoring the storm water gate at Washington Street. This issue caused some major interior drainage problems during the 2009 ice-jam event and flooding. He indicated that Bismarck's water treatment plant should be fine, but that they need to look into their wastewater treatment plant as river elevations would be approaching their discharge elevations. They may need to pump their discharges?
- Gary Stockert (City of Bismarck EM) Stated that the City was going to 24 hour EOC operations.

- Chief Witt and Sheriff Heinart briefed traffic control issues. The city will be establishing check points to control access to the Fox Island area. Sheriff Heinart said that Burleigh County was opening additional sandbagging locations. They said that traffic in and out of Fox Island is a major issue right now. He indicated that there are approximately 150 residences in that area.
- Mayor Helbling stated that the majority of the City of Mandan is above a stage of 18 feet. He said that the City has a staged flood preparation plan which they are implementing. He indicated that they'd be prepared for an 18 foot stage. He acknowledged that they do have some concerns at Marina Harbor and a couple of smaller locations along the river. He said that Morton County has some issues at Tocash (sp?) Timber area and Grainer park. He conveyed that the City of Mandan felt they could handle their issues and that resources should be committed to their neighbors to the East, Bismarck. He also asked everyone to not waste officials time looking for someone to blame right now. He asked everyone to focus on protection.
- Jim Peluso expressed concern about providing residents stage information verses cfs flows. He stated that he does not feel comfortable with the figures being provided and expressed that nobody really seems to know what areas will be impacted. He asked if it was even practical to think that we could keep the water out?
- Gen Spry and Greg Wilz committed to providing state resources, including National Guard troops to assist.

There was considerable discussion and a Q&A period. Burleigh County indicated that they have elevation contours up to elevation 1642 and that those are available at their website, "BurleighCO.com". It was also announced that Burleigh and Morton counties had both passed an "idle only" restriction on the river and adjacent tributaries.

Following the press conference, I was interviewed by two television stations and the AP.

As stated, I have been invited to another press conference tomorrow, at 10:00 a.m. and it sounded like the Mayor wanted to host another press conference on Thursday as well. I'm not sure who I should be distributing this information to so have provided it to a limited distribution. Please utilize it as you see fit?


Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

NWO

From: Fong, Cecily S. [cfong@nd.gov]
Sent: Tuesday, May 24, 2011 11:45 PM
To: Farhat, Jody S NWD02; Quinn, Kevin R NWO
Cc: Senger, Mary H.; David, Gloria A.; Stockert, Gary K.; Lapp, Tammy L.; Wilz, Greg M.; Anton, Amy J.
Subject: RE: news release -- just released (UNCLASSIFIED)

Hi Jody,

Thanks for your quick response! We are all just a bit keyed up given the situation, so I appreciate you getting back to me so quickly.

We know that the 24' foot forecast is incorrect. What I am asking for on behalf of our local emergency management officials and NDDDES, is for the Corps to help us diffuse the rumor that has been reported to the state EOC. I believe it is in all of our best interest to do our best to correct the information as much as we can. I'm certain, given the nature of this situation, that rumors are going to fly. Anything you can do to support our local messages and anything we can do to support yours will be critical to our efforts. I'm hoping we can coordinate our messages so that we are able to provide the impacted public with the most accurate information possible, without contradiction from multiple sources. I spoke with Todd Lindquist earlier; he indicated that he is aware of some radio talk shows that have aired some callers' concerns about higher levels (i.e. 24'). Regardless of what is accurate, this is what is currently being spoken of and we need to do our best to diffuse the misinformation. Todd indicated that during the news conference tomorrow, he would address the misinformation regarding the 24' level.

Thanks again for your response and contact me if you need to.

Cecily Fong
Public Information Officer
NDDDES
701.328.8154
701-391-8158

From: Farhat, Jody S NWD02 [Jody.S.Farhat@usace.army.mil]
Sent: Tuesday, May 24, 2011 11:08 PM
To: Quinn, Kevin R NWO; Fong, Cecily S.
Subject: Re: news release -- just released (UNCLASSIFIED)

Cecily - the forecast shown below is incorrect. We expect stages in the Bismarck area of 17.5 to 18 feet when the 85000 release works it's way to Bismarck early next week.

Call or email if you have any questions.

Jody
Cell 402-350-1417

----- Original Message -----

From: Quinn, Kevin R NWO
To: Farhat, Jody S NWD02
Sent: Tue May 24 20:27:36 2011
Subject: Fw: news release -- just released (UNCLASSIFIED)

Sent from my BlackBerry Wireless Handheld

----- Original Message -----

From: Fong, Cecily S. <cfong@nd.gov>

To: Quinn, Kevin R NWO

Cc: Senger, Mary H. <msenger@nd.gov>; David, Gloria A. <gdavid@nd.gov>; Stockert, Gary K. <gstockert@nd.gov>; Lapp, Tammy L. <TLapp@nd.gov>; Wilz, Greg M. <gwilz@nd.gov>; Anton, Amy J. <ajanton@nd.gov>

Sent: Tue May 24 20:21:56 2011

Subject: RE: news release -- just released (UNCLASSIFIED)

Hi Kevin,

First--and most importantly--we are hearing about a rumor in the Bis-Man area that the river level is going to reach 24'. We need you to identify a Corps spokesperson to counteract this rumor as quickly as possible. The rumor was heard on KFYZ-AM about an hour and a half ago. Just had a look for your cell number to give you a shout to expedite this, but found I don't have it.

Please send it to me when you can.

I've also just had a conversation with the Burleigh County Emergency Manager.

Apparently, she is not receiving your news releases. Please make sure that the following are receiving:

Gloria David - gdavid@nd.gov

Mary Senger - msenger@nd.gov

Gary Stockert - gstockert@nd.gov

Tammy Lapp-Harris - tlapp@nd.gov

In the meantime, I will call Todd Lindquist to see if he has any ideas about how the Corps could help us diffuse this rumor.

Get back to me as soon as you can.

Thanks.

Cecily Fong

Public Information Officer

NDDDES

701.328.8154

701-391-8158

From: Quinn, Kevin R NWO [Kevin.R.Quinn@usace.army.mil]

Sent: Tuesday, May 24, 2011 4:35 PM

To: Fong, Cecily S.; Lindquist, Todd J NWO; Farhat, Jody S NWD02; Thomas, Kimberly S NWO; Stasch, Eric D NWO

Subject: news release -- just released (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

This news release went out on VOCUS to media in all basin states, to all congressional and state offices, as well as to employees.

May still be sending a RIVERWATCH DAILY, if Jody is able to get to it. May also send a news release as requested by [REDACTED]. Jody has an onslaught of calls and queries to answer. kq

Classification: UNCLASSIFIED

Caveats: NONE

2011 Missouri River Flood Talking Point

26 May 2011 - 8 a.m.

Background

- Huge rain event over the past two weeks in eastern Montana, northern Wyoming and the western Dakotas
 - As much rain in the past month as this region gets in a normal year
 - 300 - 600 percent of normal
- Runoff from the rain has use up much of the storage we intended to utilize to manage the snowmelt runoff
- Snowpack peaked late, at 135 to 140 percent of normal, and has only just begun to runoff into the system.
- Release forecasts issued over the past several days were looking at short term, immediate changes we needed to handle the rainfall event
- Now we've had a chance to look at the longer range forecast to determine what we need to do to manage the snowmelt runoff that is poised to come into the reservoir system

Snowmelt

- With the reservoirs this full, timing of the snowmelt runoff and reservoir releases is critical
 - Similar snowpack to other high water years – the record runoff year of 1997 and 1975 when we set record pool levels at Fort Peck and Garrison
 - Used the timing and shape of those snowmelts applied to the runoff expected in 2011 to estimate daily inflows and releases for the reservoirs
 - Applied to current reservoir conditions

Releases

- Increased releases well above those previously announced are necessary at all six mainstem dams
- Increased releases are needed to manage the reservoir levels to avoid reaching the top of the spillway gates
 - If reservoirs reach the top of the spillway gates, inflow equal outflow
- This plan is based on what we know today looking out the next 60-day snowmelt window
 - As always, subject to change based on changing weather conditions
- Anticipating releases at all reservoirs except Fort Peck to eventually reach the 110 kcfs range
 - 120 kcfs possible system wide
 - Would increase stages about 0.7 feet in most areas

Reservoir Specific Releases

- Fort Peck
 - Releases reaching 40 kcfs in early June, peaking out at 50 kcfs by early July
 - Peak reservoir level within 1 foot of the top of spillway gates

- Garrison
 - Increase to 85 kcfs on schedule provided previously
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Summary

- Forecast is based on best available information at this time and considers snowmelt period which previous estimates did not
- Releases of 110 kcfs are certain for lower 5 dams
- 120 kcfs across the system within the realm of possibility and is what we will be building to at any projects we are involved in
- These peak releases are absolutely necessary to manage the reservoir levels to avoid reaching the top of the spillway gates even if climatic conditions were to change suddenly for the better
- Release schedule firm for initial increases to 85,000 cfs; beyond that there will be shifts in timing based on conditions on the ground.
- Omaha and Kansas City Districts are working on flood inundation mapping which will be shared with local officials

[REDACTED]
[REDACTED]
From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 5:49 AM
To: [REDACTED]
Subject: Fw: Stages

We will also need downstream estimates. I looked at kstages last night and estimate most locations with the exception of SUX and MKC would be 3 to 6 feet above flood stage.

Please use current ratings and typical incrementals to come up with an range of stage estimates for each gaging station on the lower river.

We want to say: at xxx location it will be approximately xxx feet to xxx feet and higher if we get heavy rain.

Back of the envelope calculation only at this time. This is needed before the 0800 call.

Jody

----- Original Message -----

From: Farhat, Jody S NWD02
To: Ruch, Robert J COL NWO; [REDACTED]
Sent: Thu May 26 03:32:07 2011
Subject: Re: Stages

I think John has the best estimates

----- Original Message -----

From: Ruch, Robert J COL NWO
To: Farhat, Jody S NWD02; [REDACTED]
Sent: Thu May 26 03:25:25 2011
Subject: Stages

Need to confirm stages in cities - key point last night on calls.

V/R,

COL Bob Ruch

Message sent via my BlackBerry Wireless Device

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 6:35 AM
To:

From: [REDACTED]
To: [REDACTED]; Schenck, Kathryn M NWD; Farhat, Jody S NWD
Cc: [REDACTED]
Sent: Thu May 26 04:21:13 2011
Subject: FW: Ft Randall (UNCLASSIFIED)

All,

ENCLOSURE

From: [REDACTED] NWO
Sent: Thursday, May 26, 2011 11:35 AM
To: [REDACTED] NWO
Cc: [REDACTED] NWO, Worden, Robert J NWO
Subject: Ft Randall



We plan to meet with [REDACTED]

Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 7:40 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: SD EOC Requests - High Priority (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The Bend pool is at 1419.5 this morning. We'll do what we can to keep it down and coordinate with the tribes as soon as possible. However, we need to make a quick assessment of impacts to the tribes at 1419. We don't want to help out one area (Pierre) to the detriment of another, especially the tribes - it's an environmental justice issue. Perhaps with the high releases there won't be an impact, but we have to know that before we can say that.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Thursday, May 26, 2011 7:22 AM
To: [REDACTED] Farhat, Jody S NWD02
Subject: SD EOC Requests - High Priority (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Word has been passed from the SD EOC on two items that I need input on:

1. City of Ft. Pierre has requested that the LaFramboise Causeway be breached. They see this as a retention structure that is increasing the water elevation on the Ft. Pierre side of the river.

(Note: This was mentioned in a conversation that I had with Brad Lawrence on Monday. I had the difference survey Tuesday at about 1400hrs during the 64,000cfs flows. There was a 2.2ft difference in water surfaces across the causeway.)

2. The level of Lake Sharpe is requested to be lowered to a maximum of 1419.0. Even if this does not have a major effect on the water surface in Pierre/Ft. Pierre, public perception will be GREATLY POSITIVELY influenced if we do this. I believe that it is just coordination between the Col. and the Crow Creek and Lower Brule Sioux Tribes to operate below 1419.0.

My recommendation is that we DO this as soon as we can. With where we are going, anything that could help or even be perceived as helping needs to be accomplished.

Know people are really busy, but answers to these are requested soonest.

Thanks
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 7:42 AM
To: [REDACTED]
Subject: RE: SD EOC Requests - High Priority (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Do we know that it doesn't impact communities on the reservoir?

-----Original Message-----

From: [REDACTED]
Sent: Thursday, May 26, 2011 7:41 AM
To: [REDACTED]; Farhat, Jody S NWD02
Subject: RE: SD EOC Requests - High Priority (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

At the flows we are talking about, the causeway is submerged, and the effect on WSE is minimal and local. In order for a breach to have any impact at all, the breach would have to be very large (approaching removal). I don't know if the PR value is worth it here. As we increase releases the causeway may breach itself.

At the discharges that we are planning, the benefits of lowering Lake Sharpe do not reach the Pierre/Ft Pierre area, and we should tell them that. However, if this makes people feel good, and does not impact the communities on the reservoir or downstream operations, I don't see any harm.

[REDACTED]

-----Original Message-----

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Sent: Thursday, May 26, 2011 7:22 AM
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Classification: UNCLASSIFIED
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Caveats: NONE

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[REDACTED]

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 10:11 AM
To: [REDACTED]
Subject: RE: Snow Water Equivalents in Montana River Basins (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] the numbers on this website compare the current snow with the normal for this date, so when the melt is delayed even if we don't get any additional snow those numbers go way up because the "normal" is declining. The number my office quotes are the current snowpack compared to the normal PEAK accumulation rather than the normal for that date

Jody

-----Original Message-----

From: [REDACTED]
Sent: Thursday, May 26, 2011 10:07 AM
To: [REDACTED] Farhat, Jody S NWD02
Subject: Snow Water Equivalents in Montana River Basins (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

<http://www.wcc.nrcs.usda.gov/cgibin/snowup-graph.pl?state=MT>

[REDACTED]

I do not see anything above Fort Peck less than 160 percent for Snow Water Equivalents. Am I missing something?

[REDACTED]

U.S. Army Corps of Engineers
Operations Project Manager
Fort Peck Project
Fort Peck, Montana 59223

[REDACTED]

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 12:59 PM
To: [REDACTED]
Subject: RE: Big Bend - Tribal Contacts (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks for covering with the Tribes, Keith. This is important. We don't want to harm them in effort to help out somewhere else

Jody

-----Original Message-----

From: [REDACTED]
Sent: Thursday, May 26, 2011 12:55 PM
To: [REDACTED]
Cc: [REDACTED]; Farhat, Jody S NWD02; [REDACTED]
Subject: Big Bend - Tribal Contacts (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

I visited the LBST and CCST tribal halls this morning to give them a heads up on lake levels and current water discharge plans.

At Lower Brule I was able to brief Council member Orvill "Red" Langdeau Jr. I left him with my card and he said he would brief the Chairman and council.

At Crow Creek the Chairman and council were unavailable. I left a business card and said I would stop in again today or tomorrow morning.

Lake Sharpe is currently ~ EL1419.1 and it is visible along the rip-rap that we are down.

Pumps

We are loading up two 16" Pumps and hose sets right now. They are heading to Bismarck, ND.

v/r

[REDACTED]
Operations Project Manager
Big Bend Project
"The Jewel on the Missouri River"

[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 1:01 PM
To: Steve Predmore
Subject: RE: My Fault (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Steve - looks good. Just one comment. During this critical period when things are changing so rapidly the 3-week forecast will be updated almost daily

Thanks for coordinating this.

Jody

-----Original Message-----

From: Steve Predmore [mailto:Steven.Predmore@noaa.gov]
Sent: Thursday, May 26, 2011 12:49 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED], Kevin R NWD02
Subject: Re: My Fault (UNCLASSIFIED)

Jody,

I propose the following email to NWS offices along the Missouri River, and NWS Central Region Headquarters. Please review it and let me know if you'd like any changes. Thank you.

Steve

All,

This year the Corps' Water Management Division in Omaha is facing a major challenge in regulating their 6 main stem reservoirs (Ft. Peck, Garrison, Oahe, Big Bend, Ft. Randall, and Gavins Point) due to significant spring rainfall runoff combined with much higher than normal snowmelt runoff. They will be extremely busy taking calls from many constituents. They have requested that all NWS offices with questions regarding their release schedule contact MBRFC rather than the Corps' Water Management Division, local project managers, or the state, for the latest release information.

The releases we use in our daily forecasts are the latest ones posted on the following Corps' website: <http://www.nwd-mr.usace.army.mil/rcc/reports/forecast.html>. On this website are two links of interest. The first is the Corps' release schedule for the next 6 days (Missouri River Station Flows). Of the 6 main stem reservoirs, only Gavins Point is listed in this product at the top of the page. This information is updated daily, usually after 11 am.

The second is the Main Stem Regulation Forecast - Three-Week (Tabular) which has information on all the main stem reservoirs. It is typically updated once per week, but may be updated more frequently if the Corps decides to change their releases.

I encourage you to look at these websites before calling us. Then, if you have additional questions or concerns about the latest release schedule, please give us a call and request to talk to the Missouri River main stem forecaster. Thanks in advance for your cooperation.

Steve

On 5/26/2011 12:02 AM, Farhat, Jody S NWD02 wrote:

Classification: UNCLASSIFIED

Caveats: NONE

I also appreciate the email.

I would like to ask that ALL requests for release schedules from NWS offices are funneled through the RFC, which will obtain the official numbers from me or my staff. Rumors are flying at lightning speed and we Feds must not contribute to the problem. Please insist that forecasters not contact local project managers or the states for release schedules.

Thanks for your understanding.

Jody

-----Original Message-----

From: Steve Predmore [<mailto:Steven.Predmore@noaa.gov>]

Sent: Wednesday, May 25, 2011 11:42 PM

To: Farhat, Jody S NWD02; [REDACTED]

Subject: My Fault

Jody [REDACTED]

I apologize for information on your release plans going to others you did not intend it to. I gave Noreen Schwein a head's up. She thought a couple of MIC's whose weather forecast offices cover the upper Missouri River should have a heads up. One of them, Jeff Savadel, called the Garrison project manager and someone from the SEOC in ND to see if they had any information.

I talked with Jeff this evening. He's sorry about the problem he caused. He didn't realize the sensitivity of the situation. However, it's my fault for not making it clear and I'm very sorry.

Steve

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 2:56 PM
To: Engemann, Daniel
Subject: RE: Conference Calls (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Dan - don't know if you've gotten any updates but this morning we put out a new release schedule with dramatically higher releases. If you haven't seen or heard anything yet, please give me a call so I can bring you up to date. Below is a press release we sent out this morning. We are planning a call with the Congressional Delegation for both Omaha and Kansas City Districts at 0800 CT Saturday.

Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: May 26, 2011

Contact: [REDACTED] 402-995-2420

[REDACTED]@usace.army.mil

Jody Farhat 402-996-3840

Jody.S.Farhat@usace.army.mil

Dam releases to reach historic levels

Omaha, Neb. - Releases from the Missouri River reservoirs will reach historic levels in the coming weeks, the result of above-normal snow in the mountains and extraordinary rain over the last several weeks. Significant flooding in cities, towns and agricultural land is expected in North and South Dakota with many areas from Sioux City, Iowa, to the Mississippi rising above flood stage.

Flows from five of the six dams are expected to reach a record 110,000 cubic feet per second (cfs). The previous high releases were 70,000 cfs in the fall of 1997. "Public safety is our number one concern," said Brig. Gen. John McMahon, commander of the Northwestern Division of the Army Corps of Engineers. "We are working closely with state and local emergency management teams to identify potential flood areas, provide residents with the most current information and help protect vital public infrastructure.

"People along the river are encouraged to make evacuation plans to protect their possessions and property. Maps for potential flood areas will be available at www.nwo.usace.army.mil <<http://USACEARMY.pr-optout.com/Url.aspx?520028x532982x-273684>> and from local emergency management offices," he added.

Flooded areas are expected to be inundated for several months.

"Moving water out of the reservoirs is essential to prevent the spillways from being overtopped which would make flooding much worse," said General McMahon. "Our release plan is based on the rain we've already received and the forecasted snow melt. More heavy rain storms could cause major revisions." At these levels, additional releases do not significantly change the foot print of the flooding, only the depth.

In the last month, the upper basin has received a year's worth of rain. "The amount of rain has nearly filled the reservoirs, doing away with most of the flexibility we had built into our operations for this year," said Jody Farhat, Chief of the Water Management Division here. "With the arrival of the 140 percent-of-normal snowpack runoff, all the reservoirs will reach their maximum levels."

Releases Fort Peck, Mont., are expected to reach 40,000 cfs in early June and peak at 50,000 cfs in early July. The reservoir is forecast to reach within a foot of the top of the spillway gates.

Garrison releases will increase from the current 75,000 cfs to 85,000 cfs on Monday, May 30 and reach 105,000 cfs about mid-June. The peak reservoir level will likely reach the top of the spillway gates at 1853.9 feet. Many areas along the river in the Bismarck-Mandan area will be flooded with 3 to 6 feet of water.

Oahe releases will follow a pattern similar to Garrison, reaching 85,000 cfs on Saturday, May 28 and as high as 100,000 cfs by June 6 and 110,000 cfs by late in the month. The reservoir will peak within a foot of the top of the spillway gates at 1619 feet. Many areas along the river in Pierre will be flooded with 2 to 6 feet of water.

Big Bend releases will mirror those from Oahe, with its reservoir level remaining at 1420 feet.

Releases from Fort Randall will gradually increase from the current 61,000 cfs to 110,000 cfs by late-June. River stages in the reach below the dam should rise 2 to 6 feet.

Releases from Gavins Point will gradually increase from the current 63,000 to 110,000 cfs by the end of June. River stages 3-6 feet above flood stage are expected from just below Sioux City to the mouth north of St. Louis.

###

U.S. ARMY CORPS OF ENGINEERS - OMAHA DISTRICT

1616 Capitol Ave., Ste. 9000

<http://www.nwo.usace.army.mil/> <<http://USACEARMY.pr-optout.com/Url.aspx?520028x532981x-795618>>

Find us on Facebook at facebook.com/OmahaUSACE <<http://USACEARMY.pr-optout.com/Url.aspx?520028x532980x-264544>> and on Twitter at twitter.com/OmahaUSACE <<http://USACEARMY.pr-optout.com/Url.aspx?520028x532979x-786479>>

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<<http://USACEARMY.pr-optout.com/Url.aspx?520028x532977x-777344>>

<<http://us.vocuspr.com/Url.aspx?520028x532983x-804761>>

If you would rather not receive future communications from U.S. Army Corps of Engineers, Omaha District, let us know by clicking here. <http://USACEARMY.pr-optout.com/Url.aspx?520028x24691x316392x31875200x24000x6>

Email: Jody.S.Farhat@usace.army.mil

U.S. Army Corps of Engineers, Omaha District, 1616 Capitol Ave., Ste. 9000, Omaha, NE 68102
United States

-----Original Message-----

From: Engemann, Daniel [mailto:Dan.Engemann@mail.house.gov]

Sent: Thursday, May 26, 2011 10:42 AM

To: Farhat, Jody S NWD02

Cc: Chris.Brown@usace.army.mil

Subject: Conference Calls

Jody,

Thanks for your help in arranging the call yesterday between the Congressman and Gen. McMahon. The General mentioned daily calls that were going on, and asked if we were being notified, which I don't believe we are. We'd like to be included in these if possible, so we can try to stay ahead of this situation, and keep our constituents informed. Please advise.

Thanks,

Dan Engemann

Deputy District Director

Congressman Blaine Luetkemeyer (MO-09)

516 Jefferson Street

Washington, Missouri 63090

Phone: 636-239-2276

Fax: 636-239-0478

Mobile: 573-208-0507

Classification: UNCLASSIFIED

Caveats: NONE

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 - Releases gradually increased to 110 kcfs by late June – early July
 - Normal operating level for reservoir – no flood control storage

Summary

- Forecast is based on best available information at this time and considers snowmelt period which previous estimates did not
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- Release schedule firm for initial increases to 85,000 cfs; beyond that there will be shifts in timing based on conditions on the ground.
- Omaha and Kansas City Districts are working on flood inundation mapping which will be shared with local officials

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 6:06 PM
To: [REDACTED]
Subject: RE: Garrison Spillway Gate Elevations (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks Todd

-----Original Message-----

From: Lindquist, Todd J NWO
Sent: Thursday, May 26, 2011 5:18 PM
To: [REDACTED]; Farhat, Jody S NWD02; [REDACTED]
Subject: Fw:Garrison Spillway Gate Elevations (UNCLASSIFIED)

FYI

Message sent via my BlackBerry Wireless Device

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]; Phelps, Charles J NWO
Sent: Thu May 26 14:59:14 2011
Subject: Spillway Gate Elevations (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

<<Spillway Gates - Elevation.pdf>>

Spillway Gates as of 1997, as surveyed by Merle Zook (CET and Dam Safety person at Garrison during that time). I have not come across a registered surveyor survey, this is what we have as of 1996,

[REDACTED]
Engineering Technician

US Army Corps of Engineers

[REDACTED]
PO Box 527,

Riverdale, ND 58565

Office - [REDACTED]

Cell - [REDACTED]

Fax - [REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 9:13 PM
To: Steve Predmore
Subject: RE: Information Regarding Corps Releases from Mainstem Reservoirs (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks for putting this out Steve. It'll make our lives easier in the long run.

Jody

-----Original Message-----

From: Steve Predmore [<mailto:Steven.Predmore@noaa.gov>]
Sent: Thursday, May 26, 2011 3:18 PM
To: Ben Moyer; Gregory Forrester; Jeffrey Savadel; Allen Schlag; James Scarlett; Amy Parkin; Lisa Schmit; Michael Gillispie; James Meyer; David Pearson; Julie Adolphson; Scott Watson; Wes Browning; Mark Fuchs; Noreen Schwein; Kris Lander; Wendy Pearson
Cc: _NWS CR KRF
Subject: Information Regarding Corps Releases from Mainstem Reservoirs

All,

This year the Corps' Water Management Division in Omaha is facing a major challenge in regulating their 6 main stem reservoirs (Ft. Peck, Garrison, Oahe, Big Bend, Ft. Randall, and Gavins Point) due to significant spring rainfall runoff combined with much higher than normal snowmelt runoff. They will be extremely busy taking calls from many constituents. They have requested that all NWS offices with questions regarding their release schedule contact MBRFC rather than the Corps' Water Management Division, local project managers, or the state for the latest release information.

The releases we use in our Missouri River daily forecasts are the latest ones posted on the following Corps' website: <http://www.nwd-mr.usace.army.mil/rcc/reports/forecast.html>. On this website are two links of interest. The first is the Corps' release schedule for the next 6 days (Missouri River Station Flows). Of the 6 main stem reservoirs, only Gavins Point (GAPF) is listed in this product, at the top of the page. The schedule displays the dam's release in thousand CFS (KCFS). This information is updated daily, usually between 11 am and 2 pm.

The second is the Main Stem Regulation Forecast - Three-Week (Tabular) which has information on all the main stem reservoirs. The release, also displayed in thousand CFS, is listed in the 240D column. This schedule is typically updated once per week during mid-week and between 11 am and 2 pm, but will likely be updated almost daily during this critical period of release changes.

Please encourage your staff to look at these websites before calling us. Then, if they have additional questions or concerns about the latest release schedule, please give us a call and request to talk to the Missouri River main stem forecaster. Thanks in advance for your cooperation.

Steve

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 9:19 PM
To: dave@hhfarmsia.com
Subject: RE: Missouri River level @ Omaha. (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mr Hansen,
The release forecast has increased significantly to as high as 110,000 cfs later this summer. That will result in stages currently estimated to be 1 to 3 feet above flood stage, significantly higher than previous expected. We are working to develop reliable river stage forecasts for these record releases and should have better numbers by early next week. We will be providing this information to the state and county emergency management agencies so they will be your best source of information for you specific location.

Our plan is to come up to 85,000 cfs by 3 June, then hold for a week before gradually increasing to flows in the 100 kcfs range by mid June and 110 kcfs by early July.

Jody

-----Original Message-----

From: dave@hhfarmsia.com [mailto:dave@hhfarmsia.com]
Sent: Thursday, May 26, 2011 3:17 PM
To: Farhat, Jody S NWD02
Subject: Missouri River level @ Omaha.

Jody,

We farm on the Missouri River bottom North of Omaha on the Iowa side. I have read conflicting information concerning the crest. Several of our levies are built around the 30' River mark. The latest information I have read gave a crest of 29'2" in Omaha. However, this seems a little too low for an 85,000 cfm discharge from Gavins Point. If you had any additional information regarding River level forecasts that would be appreciated.

Thank You,

David Hansen
[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 9:22 PM
To: Ames, Joel O NWO
Cc: [REDACTED]; Ruch, Robert J COL NWO; [REDACTED]
Subject: RE: Porjections (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] and his crew are working on inundation mapping which I'm certain will over many of the areas mentioned below. All this will take until the middle of the week next week, but I'm sure the plan is to get it to the tribes asap and offer any assistance we can provide.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Thursday, May 26, 2011 3:14 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED]; Ruch, Robert J COL NWO
Subject: Porjections (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

Has any thought been given to preparing inundation maps showing potential impacts to Tribal Lands based on the projected flows? I would think they would be useful tools to assist them in preparing? I know Winnebago will be concerned about how the higher flows are going to further impact their crossing at the Glovers Point SWH Site. TAT, SRST, and CRST will have questions/concerns as well. Ft Peck Tribe (other than the irrigation intake which we discussed) may be in better shape because they are higher up. Omaha Tribe may want to know impact to the Hole in the Rock Site which is both a important cultural site as well as a SWH site.....Joel

[REDACTED]
Tribal Liaison
USACE Omaha District
1616 Capitol Ave, Suite 9000
Omaha, NE 68102-4901
Voicemail [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED

2011 Missouri River Flood Talking Point

26 May 2011 - 8 a.m.

Background

- Huge rain event over the past two weeks in eastern Montana, northern Wyoming and the western Dakotas
 - As much rain in the past month as this region gets in a normal year
 - 300 - 600 percent of normal
- Runoff from the rain has use up much of the storage we intended to utilize to manage the snowmelt runoff
- Snowpack peaked late, at 135 to 140 percent of normal, and has only just begun to runoff into the system.
- Release forecasts issued over the past several days were looking at short term, immediate changes we needed to handle the rainfall event
- Now we've had a chance to look at the longer range forecast to determine what we need to do to manage the snowmelt runoff that is poised to come into the reservoir system

Snowmelt

- With the reservoirs this full, timing of the snowmelt runoff and reservoir releases is critical
 - Similar snowpack to other high water years – the record runoff year of 1997 and 1975 when we set record pool levels at Fort Peck and Garrison
 - Used the timing and shape of those snowmelts applied to the runoff expected in 2011 to estimate daily inflows and releases for the reservoirs
 - Applied to current reservoir conditions

Releases

- Increased releases well above those previously announced are necessary at all six mainstem dams
- Increased releases are needed to manage the reservoir levels to avoid reaching the top of the spillway gates
 - If reservoirs reach the top of the spillway gates, inflow equal outflow
- This plan is based on what we know today looking out the next 60-day snowmelt window
 - As always, subject to change based on changing weather conditions
- Anticipating releases at all reservoirs except Fort Peck to eventually reach the 110 kcfs range
 - 120 kcfs possible system wide
 - Would increase stages about 0.7 feet in most areas

Reservoir Specific Releases

- Fort Peck
 - Releases reaching 40 kcfs in early June, peaking out at 50 kcfs by early July
 - Peak reservoir level within 1 foot of the top of spillway gates

- Garrison
 - Increase to 85 kcfs on schedule provided previously
 - Hold 85,000 cfs through approximately 9 June
 - Step up to 105 kcfs by mid to late June
 - Peak reservoir level at top of spillway gates
- Oahe
 - Increase to 85 kcfs on schedule provided previously
 - Hold 85,000 cfs through 3 June
 - Step up to 100 kcfs by 6 June
 - Eventually reaching 110 kcfs by late June – early July
 - Peak reservoir level within 1 foot of the top of the spillway gates
- Big Bend
 - Increase release to 85 kcfs on schedule provided previously
 - Step to 90,000 next week
 - Eventually reaching 110 kcfs by late June – early July
 - Normal operating level for reservoir – no flood control storage
- Fort Randall
 - Increase to 82.5 kcfs on schedule provided previously
 - Releases gradually increased to 108 kcfs by late June – early July
 - Peak reservoir level 1364.5
- Gavins Point
 - Increase to 85 kcfs on schedule provided previously
 - Releases gradually increased to 110 kcfs by late June – early July
 - Normal operating level for reservoir – no flood control storage

Summary

- Forecast is based on best available information at this time and considers snowmelt period which previous estimates did not
- Releases of 110 kcfs are certain for lower 5 dams
- 120 kcfs across the system within the realm of possibility and is what we will be building to at any projects we are involved in
- These peak releases are absolutely necessary to manage the reservoir levels to avoid reaching the top of the spillway gates even if climatic conditions were to change suddenly for the better
- Release schedule firm for initial increases to 85,000 cfs; beyond that there will be shifts in timing based on conditions on the ground.
- Omaha and Kansas City Districts are working on flood inundation mapping which will be shared with local officials

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 11:04 PM
To: Klippenstein, Brian (Plunt)
Cc: [REDACTED]
Subject: RE: Latest on Missouri (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Brian, Sorry for the delay getting back to you. I'm sure by now you've heard that eventually we will be increasing releases to 110,000 cfs from Gavins Point dam. The plan is to get to about 85,000 cfs late next week, hold for about a week, then in mid June start stepping up to reach 110,000 cfs by late June to early July. This will result in stages 3 to 6 feet above flood stage for much of the summer. Omaha and Kansas City will be developing flood inundation mapping for the lower river over the next week and determining impacts to levees and lands along the river.

There's a NWK CODEL call tomorrow at 1100 CT and a combined NWO/NWK Codel call Saturday morning at 0800 CT. I 'm sure you've received the notices, but if not let me know and I'll send you the call in information.

I'm traveling in the upper basin with BG McMahon the next two days. Bismarck ND and Pierre SD will have major flooding. If you have any questions give me a call on my cell . Lleave a message if I don't pick up; I'll call you back first chance I get.

Regards,

Jody

Jody Farhat, P.E.

Chief, Missouri River Basin Water Management

mailto:forthehouse@army.mil

Office: 402-996-3840

Cell: 462-350-1417

Home: 402-551-6013

From: Klippenstein, Brian (Blunt) [<mailto:Brian.Klippenstein@blunt.senate.gov>]
Sent: Thursday, May 26, 2011 2:33 PM
To: Farhat, Jody S NWD02
Subject: Latest on Missouri

Daily discharge statistics, in cfs, for May 26 based on 53 years of record more
<<http://waterdata.usgs.gov/mo/nwis/dvstat/?site no=06893000&por 06893000 4=834166,00060,4>>

Min
(2006)

25th
percen-
tile

Median

Mean

75th
percen-
tile

Max
(1995)

Most Recent
Instantaneous
Value May 26

36500

51600

68100

75200

101000

162000

168000

Jody, this is USGS table which looks ominous, and is this before another big increment of release upstream due to bulging lakes? What is the prognosis?

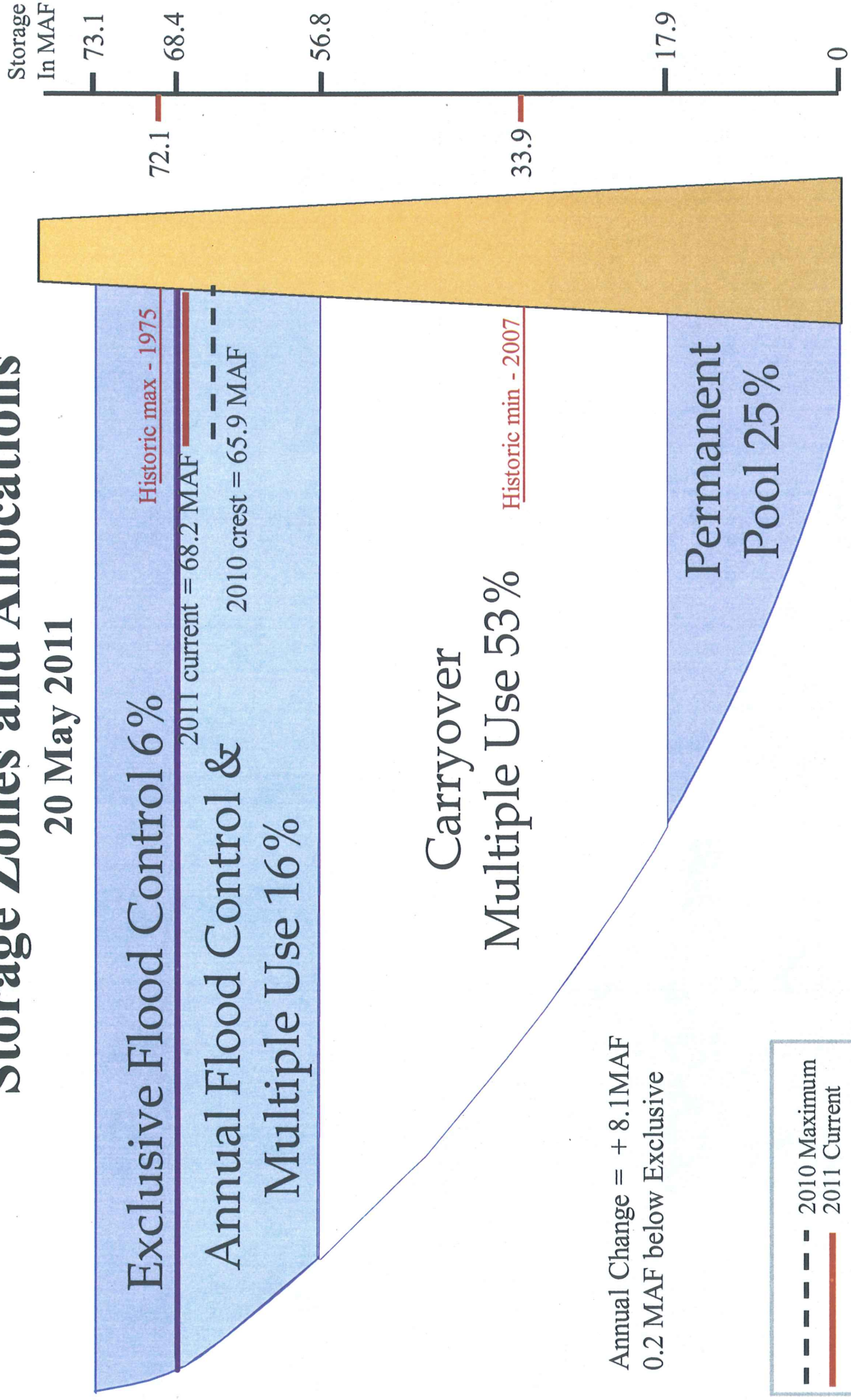
Klip

816 471 7141

Classification: UNCLASSIFIED
Caveats: NONE

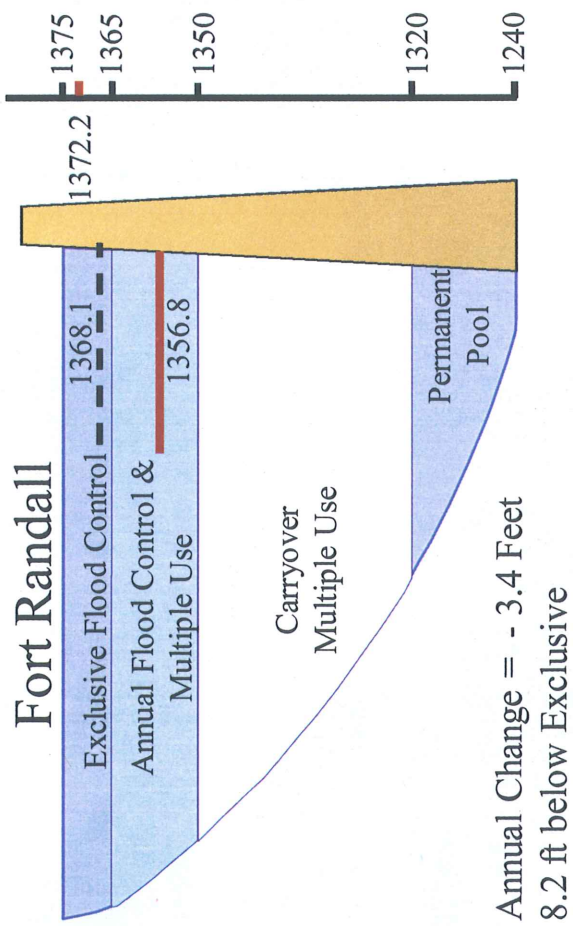
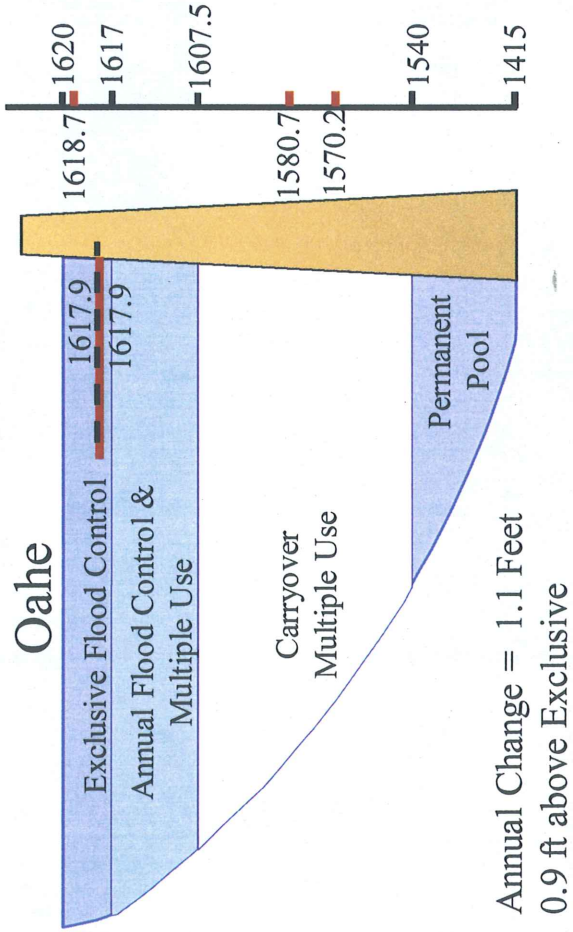
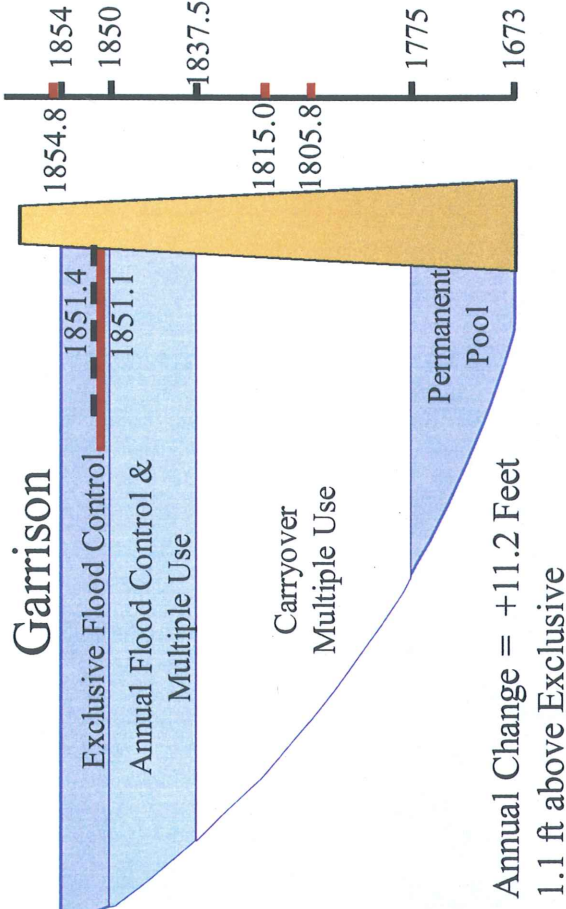
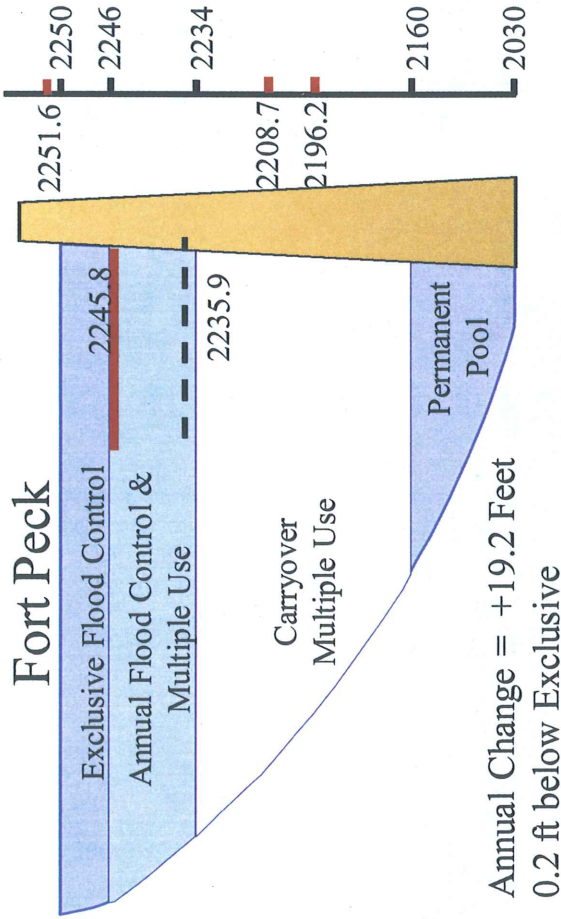
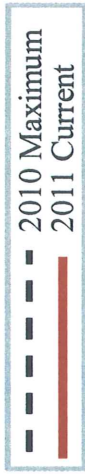
Missouri River Mainstem System Storage Zones and Allocations

20 May 2011



Mainstem Reservoir Levels

26 May 2011



[REDACTED]

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 11:53 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Big Bend - Tribal Contacts (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] can you talk to [REDACTED] to see if they would expect any impacts to cultural resources due to lowering the Big Bend pool.

[REDACTED] - you may have heard about our new release forecasts - far above previous record releases from all six dams. You and your staff should probably engage soon to see if there will be impacts across the basin due to high reservoirs and record releases. Joel is starting to engage the tribes and cultural resources will certainly come up. Would be nice to be able to tell them we're looking at it.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Thursday, May 26, 2011 12:55 PM
To: [REDACTED]
Subject: Big Bend - Tribal Contacts (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

I visited the LBST and CCST tribal halls this morning to give them a heads up on lake levels and current water discharge plans.

At Lower Brule I was able to brief Council member Orvill "Red" Langdeau Jr. I left him with my card and he said he would brief the Chairman and council.

At Crow Creek the Chairman and council were unavailable. I left a business card and said I would stop in again today or tomorrow morning.

Lake Sharpe is currently ~ EL1419.1 and it is visible along the rip-rap that we are down.

Pumps

We are loading up two 16" Pumps and hose sets right now. They are heading to Bismarck, ND.

v/r

[REDACTED]
Operations Project Manager
Big Bend Project
"The Jewel on the Missouri River"



Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Burke, Linda F NWO

From: Farhat, Jody S NWD02
Sent: Friday, May 27, 2011 12:23 PM
To: [REDACTED]
Subject: Re: Inflows (UNCLASSIFIED)

Thanks - no problem with the delay

From: [REDACTED]
To: Farhat, Jody S NWD02
Sent: Fri May 27 09:43:26 2011
Subject: Inflows (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Jody:

Ft. Peck: 71 kcfs

Garr: 167

Oahe: 107

Bend: 67

Ft. Randall: 86

Gapt: 63

Sys Sg: 68.5

+396

Sorry I didn't get these earlier.

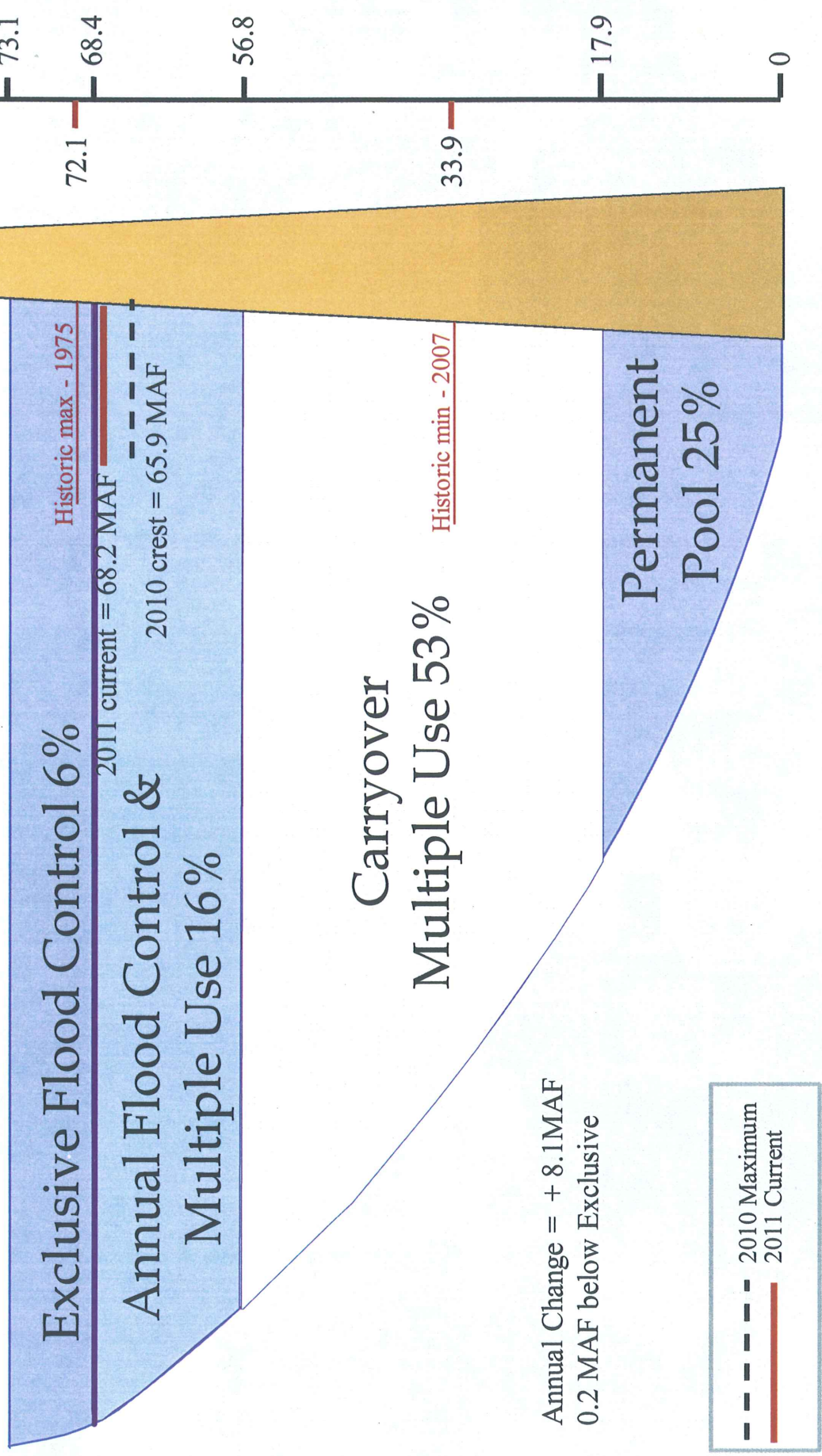
[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

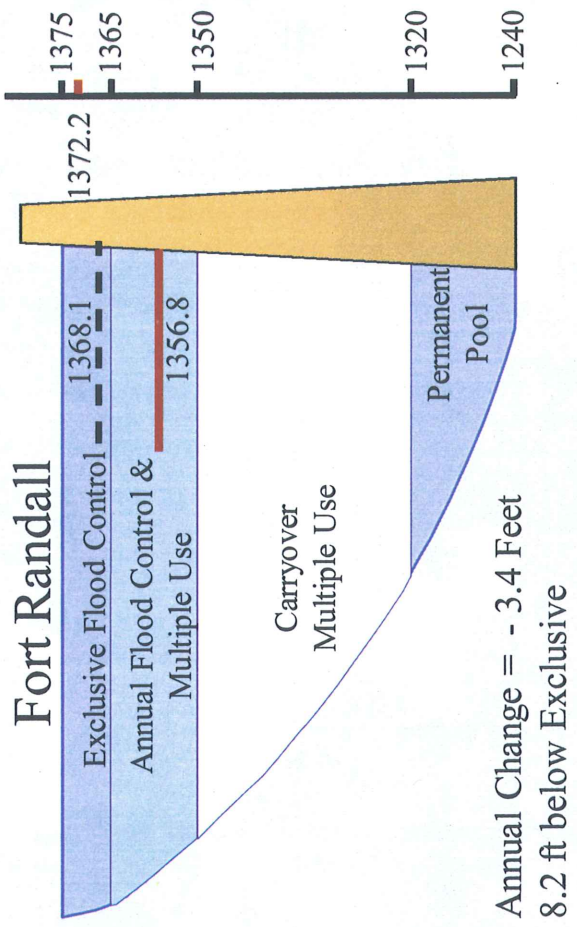
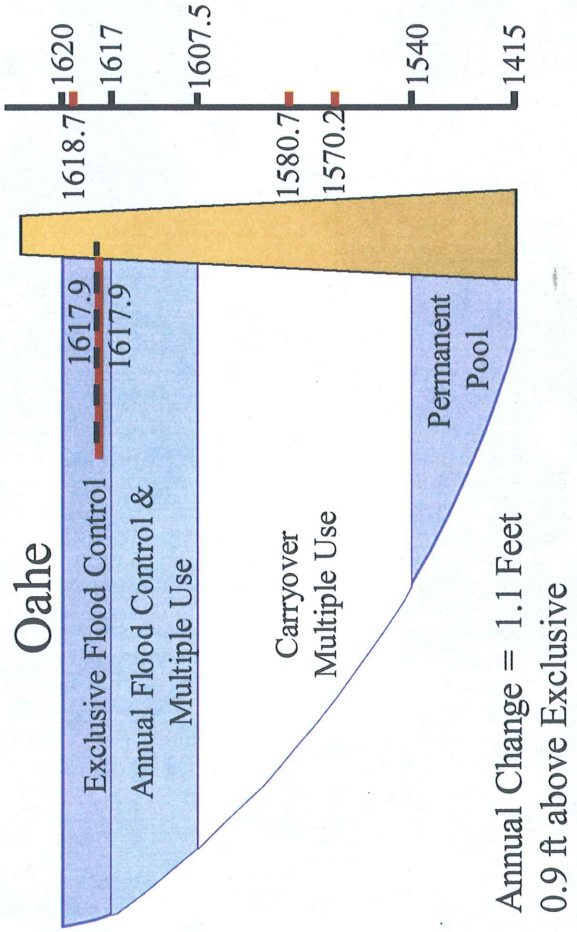
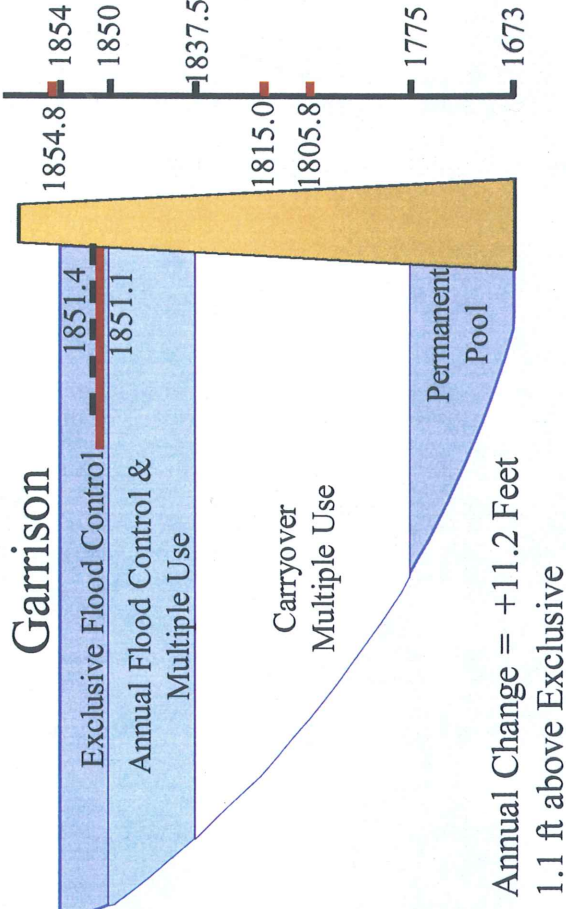
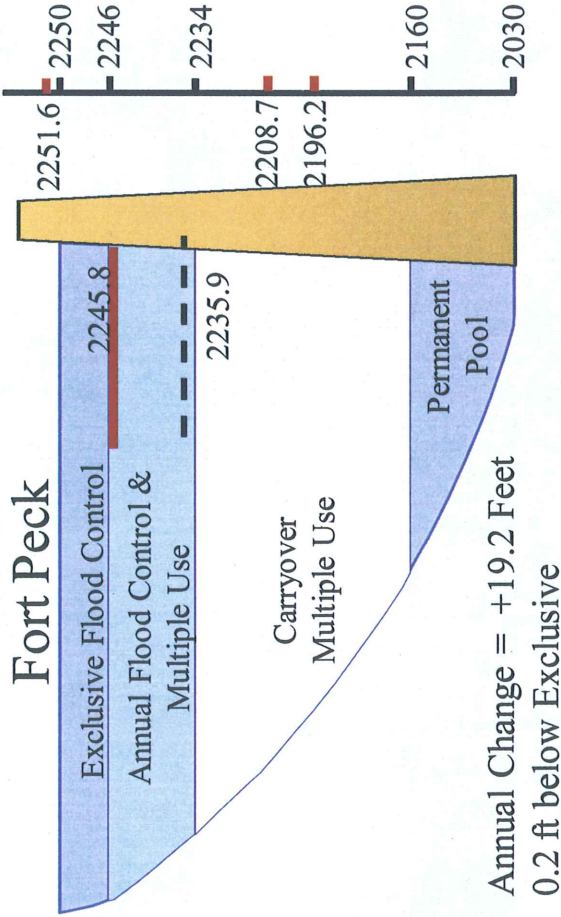
Missouri River Mainstem System Storage Zones and Allocations

20 May 2011



Mainstem Reservoir Levels

26 May 2011



Mississippi & Atchafalaya STAGES – 26 May 2011 – 0600 CDT

Station	Flood Stage	Current Stage	Actual/Forecasted Crest Stage	Date	Record Stage	Year
Cairo, IL	40.0	46.07	61.72****	2 May	59.51	1937
New Madrid, MO	34.0	35.11	48.35	6 May	47.97	1937
Caruthersville, MO	32.0	35.54	47.61	7 May	46.00	1937
Memphis, TN	34.0	35.04	47.87	10 May	48.70	1937
Helena, AR	44.0	47.93	56.59	12 May	60.21	1937
Arkansas City, AR	37.0	48.67	53.14	16 May	59.20	1927
Greenville, MS	48.0	60.39	64.22	17 May	65.4*****	1927
Vicksburg, MS	43.0	55.25	57.1	19 May	56.20*	1927
Natchez, MS	48.0	60.42	61.95	19 May	58.04	1937
Red River Lndg, LA	48.0	61.98	65.5*** (63.09****)	21 May	61.61	1997
Baton Rouge, LA	35.0	43.75	47.5*** (45.01****)	18 May	47.28	1927
New Orleans, LA	17.0**	16.78	19.5*** (17.0****)	14 May	21.27	1922
Simmesport, LA	47.0	44.74	44.94	23 May	59.13	1927
Butte LaRose, LA	25.0	23.01	23.5	27 May	27.28	1973
Morgan City, LA	4.0	10.05	9.5*** [11.0****]	30 May	10.53	1973

*62.2 ' If Levees Held

**Levees Protect New Orleans to 20.0' Stage

***w/o Morganza Operation

****NWS Crest of 63.0' on 5 May w/o BPNM Operation – Actual Stage of 59.7' on 5 May w/BPNM Operation

*****Adjusted to Current Gage Location - Prior to 1940 stages were taken at City Front or Warfield Point

New Record Stage **Exceeding Current Record Stage**

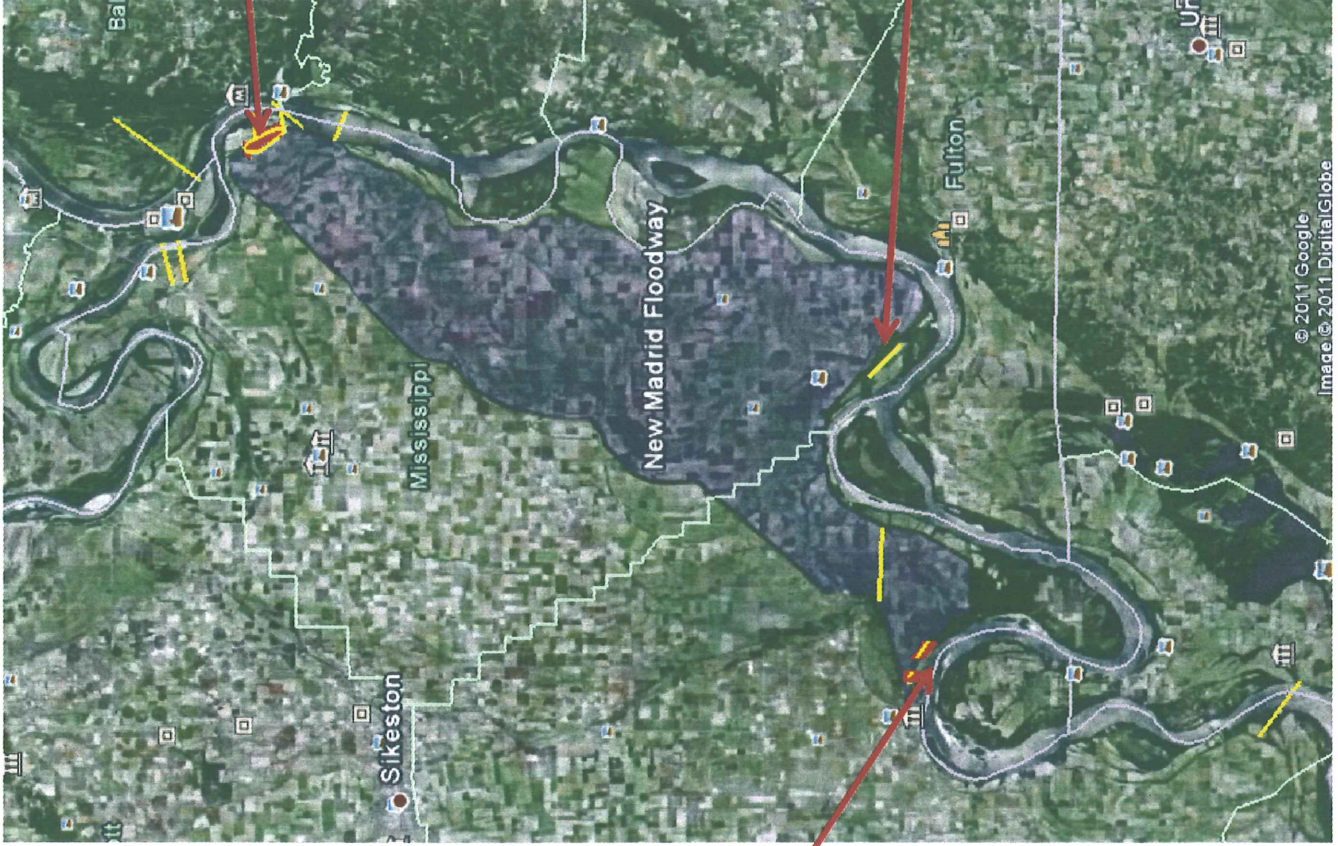
*****w/Morganza Operation**

Note: With Morganza Operation, Baton Rouge to N. Orleans crests will occur before upstream locations and will remain steady during the floodway operations.

FLOWS (1000 cfs)

Total Outflows

Date	Channel Flow
3-May	130
4-May	
5-May	~383
6-May	
8 May	362
9-May	349
10-May	342
11 May	334
12 May	324
13 May	330
14 May	314
15 May	288
16 May	248
17 May	241
18 May	210
19 May	183
20 May	147
21 May	119
22 May	87
23 May	75
24 May	54
25 May	45.4



Inflow Crevasse Channel	Date	Flow
	3-May	404
	4-May	369
	5-May	377
	8 May	347
	9 May	306
	10 May	271
	11 May	281
	12 May	254
	13 May	223
	14 May	196
	15 May	159
	16 May	128
	17 May	101
	18 May	71.2
	19 May	60
	20 May	28.3
	21 May	~20
	22 May	7.1
	23 May	N/A
	24 May	3.5
	25 May	1.0

3rd Crevasse Channel	Date	Flow
	8-May	-15.4
	9-May	-16.9
	10 May	-22.8
	11 May	-20.8
	12 May	-61.2
	13 May	-75.6
	14 May	-82.4
	15 May	-86.3
	16 May	-87.0
	17 May	-86.8
	18 May	-83.6
	19 May	-76.4
	20 May	-63.0
	21 May	-50.7
	22 May	-39.1
	23 May	N/A
	24 May	-23.6
	25 May	N/A

Current and Projected High Water Flows

Memphis
1,177,000
2,410,000
49%
2,221,000
9 May 2011

2,151,000
2,720,000
79%
2,227,000
20 May 2011

NATCHEZ

Est. 1,447,000
1,500,000
97%
1,500,000
15 May 2011

1,555,000
2,100,000
74%
1,619,000
21 May 2011

BATON ROUGE

293,000
250,000
117%
316,000
15 May 2011

BONNET CARRE, SPILLWAY

LAKE PONTCHARTRAIN

NEW ORLEANS

Est. 1,190,000
1,250,000
96%
1,250,000
10 May 2011

Morning flow, cfs or maximum daily flow
Project Flood flow, cfs
Current % of Project Flood flow
(Data is as of 0700 hours)
Projected Crest Flow
Projected Crest Date

MISSISSIPPI RIVER

597,000
620,000
96%
671,000
14 May 2011

OLD RIVER

RED RIVER LANDING

SIMMESPORT

MORGANZA FLOODWAY
140,000
600,000
23%
178,000
18 May 2011

MORGAN CITY

424,000
919,000
46%
570,000
30 May 2011

ATCHAFALAYA RIVER

50,000
350,000
14%
71,000
30 May 2011

ABOVE OLD RIVER

690,000
930,000
74%
692,000
24 May 2011

WEST ATCHAFALAYA FLOODWAY

0
250,000
0%
N/A

Wax Lake Outlet

292,000
581,000
50%
300,000
30 May 2011

GULF OF MEXICO

May 25, 2011 1900

NWO

From: Farmer, Monique L NWO
Sent: Thursday, May 26, 2011 10:24 PM
To: Farhat, Jody S NWD02
Subject: Re: DRAFT Storyboard and Talking Points (UNCLASSIFIED)

You mean lower than Gavins point? Not sure exactly what john is looking for. Location more specific than individual reservoirs? Cities within the vicinity?

----- Original Message -----

From: Farhat, Jody S NWD02
To: Farmer, Monique L NWO; Williamson, Eileen L NWO; Thomas, Kimberly S NWO
Cc: [REDACTED] NWD
Sent: Thu May 26 20:00:26 2011
Subject: Fw: DRAFT Storyboard and Talking Points (UNCLASSIFIED)

I like this and passed it by John Leighow and he likes it too. See his suggestion below. We'll also need something similar to the first page to cover lower river conditions.

Good work!
Thanks,
Jody

----- Original Message -----

From: [REDACTED] NWD
To: Farhat, Jody S NWD02
Sent: Thu May 26 19:30:54 2011
Subject: RE: DRAFT Storyboard and Talking Points (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This is great. Can you put in pictorial format where location can be shown as well?

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Thursday, May 26, 2011 6:55 PM
To: [REDACTED] NWD
Subject: FW: DRAFT Storyboard and Talking Points (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----

From: Farmer, Monique L NWO
Sent: Thursday, May 26, 2011 4:59 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Cc: Williamson, Eileen L NWO
Subject: DRAFT Storyboard and Talking Points (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE